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ABSTRACT

The attitudes and ideologies of staff and institutional administrators concerning the role of the multipurpose colleges of advanced education in tertiary education in Australia were investigated. The data for the investigation were gathered using two different questionnaires sent to academic staff in civil and mechanical engineering, architecture and building, business studies, and chemistry within 11 metropolitan multipurpose colleges of advanced education. Data on the perspectives of the institutions and coordinating bodies were obtained through a similar questionnaire sent to the Australian Council on Awards in Advanced Education, the State Co-ordinating Boards, and directors of multipurpose colleges of advanced education. A number of different ideologies are being held regarding the role of the multipurpose colleges of advanced education, and neither the institutions nor the staff universally accept any one of the ideologies to give the colleges of advanced education a common identity. Among the institutions, the larger colleges of advanced education seem to view their role as being very similar to that of universities, while the smaller ones sharply distinguish between themselves and universities. The central difference of opinion among the staff is the relative support that should be given to the notion of the colleges of advanced education maintaining equality of esteem with the universities while providing more vocationally, industrially, and community-oriented course programs, having entry requirements less academically rigid than universities, and providing conditions more suitable to the part-time student. Statistical analysis of the questionnaire responses is appended. (SC)

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No. 24

THE ROLE OF MULTIPURPOSE C.A.Es:

THE INSTITUTIONAL AND STAFF PERSPECTIVES 1974 - 1975

MACQUARIE UNIVERSITY SCHOOL OF EDUCATION

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THE ROLE OF MULTIPURPOSE C.A.Es: THE INSTITUTIONAL AND STAFF PERSPECTIVES 1974 - 1975

REPORT

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INTRODUCTION

In 1965, the Australian government took the step of trying to change the direction of development of the tertiary education system. In so doing it set the framework for what can now, retrospectively, be considered a conflict between the forces of external direction originating from parliament and planning bodies on the one hand, and the pressures of internal personal and institutional interests on the other; a conflict which is still far from being resolved.

The Australian government desired to direct the greater part of the future growth of demand in tertiary education away from the universities and towards what were to become the colleges of advanced education. These institutions were intended to be more industrially and vocationally oriented than the universities, and more accessible to students in terms of flexibility of entry standards and of accommodation to working times and location of students (through the provision of more part-time and external programs), but at the same time to be equal in public esteem to the universities.

Quantitatively, this policy would seem to have been a success - the colleges of advanced education by 1976 had drawn level with universities in terms of number of internal undergraduate students, and, thereafter by 1990, were expected to gradually increase their share of the total to 54.6 percent (Universities Commission, 1975:85). However, statistics of the relative sizes of the two sectors cannot be used as a guide to the success of the policy because the nature of the programs, the objectives of the institutions, and the philosophies of staffs cannot be assumed to be always those that the labelling of institutions as either universities or colleges of advanced education might imply. There are some universities, for example, which would be far more devoted to vocational and industrial orientation, part-time and external course provision, than some colleges of advanced education, while there are some large metropolitan multipurpose colleges of advanced education, in contrast, which specifically resent the identification through a common label of themselves with the rest of the advanced education sector and look forward to being labelled universities. Despite external forces exerted by the Federal government, the internal aspirations can, if not constrained, achieve as a fait accompli a type of tertiary education significantly different in nature and objectives from that for which the public money was originally provided. State advanced education boards play roles which can either reinforce the Federal government direction or consolidate the internal institutional and personal aspirations.

Vital to an understanding of the forces that might distort the conception of tertiary education away from that envisaged by governments, commissions, and planners is an appreciation of the role of the advanced education sector as perceived by administrators, staff, and students. This study tries to provide data for such an appreciation by analysing the viewpoints of administrators in advanced education boards and in multi-purpose colleges of advanced education in all Australian capital cities, and of the staffs from four key disciplines in these same colleges. Students were not contacted in this survey.

In planning this study, the two authors worked on the supposition that the advanced education sector had grown to its present size from too small a base and too rapidly (see Harman, 1975, II, 13-19) to necessarily have kept the greater part of any prevailing philosophy that the nucleus of the system (primarily the larger diploma-awarding technical colleges) may have had in 1965. To this base now have been added a number of newly-founded institutions, plus the former teachers colleges; in 1965, for instance, there were 34 institutions, but, in 1974 there were 78. But apart from change brought about by the additional institutions, and also by those new growth disciplines, such as liberal studies, which have risen to prominence since 1965, there could well have been change in the long established disciplines in the original multipurpose institutions, for, as this study shows, the original staffs have changed. This study concentrated its inquiry upon the staffs of the original disciplines of the original multi-purpose institutions, but even so the response showed that 43.0 percent of the staff had joined the institution within only the previous five years, and 80.7 percent within the previous ten. Relative to the present size of the advanced education sector, therefore, there would be very few of the original staff remaining, and, consequently, the prevalence of any consensus of philosophy of the original 1965 system depends upon such factors as the position of responsibility of the remaining original staff, the recruitment of a sympathetically minded staff in the interim, and the force of the external doctrine as envisaged by the original Wark Commission. As one might surmise, however, it could well be that a number of other factors have now crept in; for example, the recruitment of university-oriented staff, which could influence the prevalent philosophy.

The question of what are the attitudes and the ideologies of staff and administrators to the role of CAEs in tertiary education is, therefore, an open one - one which requires investigation towards which this study hopes it can make a contribution. This study has involved questioning the academic staffs of the four disciplinary areas of applied sciences, building, commerce and business studies, and engineering in major multi-purpose CAEs in the national capitals, together with the directors of these

institutions, and the State advanced education boards. The details of the survey and the responses are described in Chapter 1. The responses of the institutional bodies (ACAAE, AEBs, and CAEs)* are discussed in Chapter 2. Chapter 3 continues with the responses of staff, showing the results of a factor analysis to discover the prevalent ideologies. Chapter 4 identifies the groups supporting the ideologies, and in so doing intimates what ideologies might be considered to be the most significant.

The Anderson et al (1975) study of regional colleges was being written while this survey was being undertaken. Though the two works were completely independent, this work being far less wide ranging in scope and confined to only a few of the facets that engaged Anderson's team, there were nevertheless certain aspects of the Anderson report to which this study gives additional substance. In particular the reference to the 'identity crisis' which Batt (p.38) makes, underlies the problems in this study of finding a dominant CAE ideology. Harman's contention (II 13-19) that universities are still the main reference point for staff in the college system is borne out both by the willingness of some to respond to questions in this comparative framework and by the highly vitriolic objections of some others at the persistence of the use of the university standard. Thirdly a strong desire for more autonomy is reported in both studies.

The strength of looking at the two reports together is that each was concentrating upon different aspects of the CAE sector. The Anderson study was mainly regionally based with a large metropolitan comparative sample; this study was purely metropolitan and confined to certain selected disciplines within multipurpose institutions. Nevertheless, quite independently the studies demonstrate a number of similar problems which lends support to believing these problems are pervasive and fundamental.

* *ACAAE- Australian Council on Awards in Advanced Education*
AEB - Advanced Education Board (i.e. the State Co-ordinating Body)
CAE - College of Advanced Education

CHAPTER ONE

THE COLLECTION OF DATA AND THE REPRESENTATION OF RESPONSES

The data for the investigation were gathered using two different questionnaires despatched in late 1974 and early 1975 to multipurpose CAE academic staff from four discipline areas in the capital cities(1); eleven CAE staffs were involved, mailing lists being obtained from the most recent college calendars. Though the two questionnaires were sent to the same sample in each instance, those who responded to the second were only asked to complete the second questionnaire if they had not completed and returned the first; thus the groups responding to each questionnaire are mutually exclusive. It is useful to note at this point that the first questionnaire was detailed and comprehensive, providing the basis for the substantive analysis of the study; in contrast, the second, only a page in length, was designed to test for any bias in the pattern of response to the first questionnaire.

In order to test the representativeness of the respondents, the original sample(2) was broken down by level of most senior degree, academic rank, faculty, and State; these data were obtained from the calendars, and then compared with corresponding breakdowns of the respondents. These breakdowns are shown in the accompanying tables.

(1) *Two regional CAEs had also been included in the first mailing, but it became apparent that the structural re-organization of one of these could invalidate the representativeness of its responses; accordingly, it, and the CAE with which it was paired, had to be withdrawn. Respondents from these CAEs have not been counted in the survey.*

(2) *In this study, population means all academic staff of the 11 institutions in the four disciplines being surveyed; sample means those who were sent questionnaires. The 11 institutions comprised the principal metropolitan CAEs in late 1974. The attempt to obtain a representation of regional colleges had to be curtailed (see f.n.(1)), and any attempt to include the former teachers colleges would have made the study too complex.*

Table 1.1

Sample Size	
Mailing	790
Less those returned as not at address	11
Less those returned too late for coding	2
SAMPLE SIZE	777

Table 1.2

Number of Respondents and Response Rates

Questionnaires	Response One	Response Two	Combined Responses
Returned, wholly or substantially completed	206 (26.51%)	214 (27.54%)	420 (54.05%)
Less those, not able to be used for analysis	9	22	31
Effective Returns	197 (25.35%)	192 (24.71%)	389 (50.06%)

Table 1.3

Breakdown by Most Senior Degree
(Percentage)

Most Senior Degree	Sample	Response One	Response Two	Combined Response
Ph.D.	14.01	15.82	17.03	16.40
Master	13.63	23.47	26.37	24.87
Bachelor (Hons)	5.73	9.69	10.44	10.05
Bachelor and Other	66.62	51.02	46.14	46.68
SAMPLE TOTAL		100.00		

The responses are representative of the actual recorded level of Ph.Ds. in the sample. However, the educational level of the combined responses is significantly higher (at the .001 level) than the sample. Though readers might like to keep this distortion in mind, they should also note that the period of time between the compilation of data from the calendars (from which the sample data are obtained) and the responding to the questionnaires is considerable, so that the difference in distribution would partly reflect the acquisition of qualifications in the interim; the difference (not statistically significant) between Response One and Response Two might also be partially due to the same factor.

Table 1.4

Breakdown by Academic Rank (Percentage)				
Academic Rank	Sample	Response One	Response Two	Combined Response
Heads of School and Principal lecturers	7.22	14.44	13.76	14.09
Senior lecturers	26.46	20.56	21.16	20.87
Lecturers	61.01	58.89	60.85	59.89
Others	5.32	6.11	4.23	5.15
SAMPLE TOTAL		100.00		

The difference in distribution between the sample and the combined responses is highly significant at the .01 level, but it is obvious that the distortion does not occur at the lecturer or lower levels where the majority of respondents are located, but at the senior levels, caused by the overrepresentation of heads of school and principal lecturers, and the underrepresentation of senior lecturers. However, the two distortions completely offset each other, and there is no distortion between junior and senior grades.

Table 1.5

Breakdown by Faculty
(Percentage)

Faculty	Sample	Response One	Response Two	Combined Response
Civil and mechanical engineering	27.49	27.17	35.83	31.54
Architecture and building	7.67	7.61	5.88	6.74
Business studies	45.40	38.40	35.83	36.93
Chemistry	19.44	27.17	22.46	24.80
TOTAL		100.00		

The difference in distribution between the sample and the combined response is significant at the 0.01 level; the order of size of the faculties, however, is consistent, and only business studies exceeds six percentage points in distortion. The difference between the two responses is not statistically significant.

Table 1.6

Breakdown by State
(Percentage)

State	Sample	Response One	Response Two	Combined Response
Victoria	48.79	50.27	55.91	53.10
N.S.W.	14.65	7.57	13.44	10.51
Rest of Australia	36.56	42.16	30.65	36.39
TOTAL		100.00		

The difference in distribution is not statistically significant, though it is noticeable that Victoria dominates the sample and the response.

The Sample and the CAE Population

The study was designed only in respect of multipurpose CAEs, and ignores the recent addition of teacher education. It also concentrates upon the applied sciences, building, commercial and business studies, and engineering[1] disciplines of the CAEs, which, ignoring teaching education, cater for 69.04 percent (derived from Colleges of Advanced Education, 1974 ABS) of the CAE student population in Australia. The area of the CAE program that the study considers is, therefore, quite substantial.

(1) *For cost reasons, it was decided to use only selected subjects to represent applied sciences and engineering; chemistry for the former, and civil and mechanical engineering for the latter.*

CHAPTER TWO

THE INSTITUTIONAL PERSPECTIVE

> "It is encouraging to find that the uncertainties about the role of colleges which are expressed by some commentators are not generally found within the colleges themselves. Most councils and staff and student bodies understand their purpose and are pursuing their aims in a commendably positive and enthusiastic fashion." (III, § 1.11)*

> "CAEs appear still to be searching for a role in higher education, particularly in relation to the universities and, to some extent, with regard to technical and further education institutions. In this connection there is the problem of institutional aspirations as compared with community expectations. The future means of governance of large multipurpose CAEs (as distinct from small and less well-developed CAEs) is likely to emerge as one of the most crucial unresolved issues facing CAEs." (An institutional comment.)

Before commencing the study, it seemed to the authors that many of the multipurpose CAEs did have a purpose which they were pursuing in an "enthusiastic fashion" : to try and convert themselves into universities. Obviously the CAEs were not created for this purpose, but were to be "a broad comprehensive system of tertiary education, with an emphasis different from but complementary to, tertiary education at present provided by the universities". (Menzies, 1965, p.268; italics ours.) These colleges "would provide for those students who, though qualified, do not wish to undertake a full university course, .. or whose level at passing matriculation indicated a small chance of graduation from a university in minimum time or minimum time plus one year". (Menzies, 1965, p.270.)

* *For convenience, the four Commission on Advanced Education reports are labelled I, II, III, and IV, and were issued in 1966, 1969, 1972 and 1975 respectively. The first two reports were issued when the Chairman (of the then Commonwealth Advisory Committee on Advanced Education) was Dr. I.W. Wark, and are thus called the Wark Reports. The § indicates the paragraph number.*

In order to determine the perspectives of the institutions and co-ordinating bodies, the following bodies were sent a questionnaire different from but similar to that sent to academic staff in multipurpose CAEs:

Australian Council on Awards in Advanced Education - returned.
State Co-ordinating Boards - two (of 6) returned.
Multipurpose CAEs (Directors) - eight (of 12) returned. (One of these was returned after the draft report had been circulated, and could therefore not be included in this chapter. However, comments from this CAE are included in Sections J and K under the heading 'late response').

It would seem that some of the larger CAEs did not reply because the directors considered that their institution was an atypical CAE (because they wished their institution to be perceived as a prospective university?). One director, in declining to answer the questionnaire, wrote: "I believe that there is not necessarily any significant relationship between (Institution X) and other C.A.E. Colleges, or between any other multi-purpose colleges within the C.A.E. system."

Thus the non-response of some CAEs widely rumoured to be attempting to convert themselves by various strategies into universities limits the data available to test such a phenomenon.

The main difference in the two questionnaires is the omission from the institutional questionnaire of those questions on the staff questionnaire of a personal nature, such as work experience, academic experience, and reasons for seeking employment at the CAE.

In this chapter, the institutional responses will be examined in terms of the rationale for CAEs developed in the first Wark Report.* However, the very general question will first be asked: Was there an over-riding purpose in setting up the CAE system? An answer would seem to emerge from the first Wark Report: "The colleges were set up with the main object of providing specialized training for vocations ..." (I, § 2.41). A similar statement was made in 1975: "The Commission believes that it should reiterate in this Report its policy that most courses of study provided in colleges of advanced education must remain directed

* *A data bank giving means and standard deviations for the ensuing analysis is given in Appendix.*

towards a vocation." (IV, § 1.31). A question was asked which specifically examined the vocational-orientation of multipurpose CAEs compared with universities. (The seven-step scale went from 1-"more" through 4-"similar" to 7-"less".)

"SHOULD BE"

All groups agreed that multipurpose CAEs should be more "vocationally-oriented" than universities; however there is a slight tendency for staff (mean of 2.25) to be closer to no difference (4) than the institutions (1.67).

"ARE"

There was a tendency for both the institutions (mean of 2.67) and staff (2.53) to consider the multipurpose CAEs as being less "vocationally-oriented" than these groups considered they should be.

There is thus a strong belief in the vocational-orientation. One wonders why this orientation has apparently not been achieved to the extent desired.

The form in which the vocational orientation is viewed is encapsulated in the following quote: "The purpose of the colleges is to train students so that immediately after graduation they may play an effective role in commerce, industry, the public service or the arts." (II, § 1.8).

"SHOULD BE"

There was a tendency for the institutions (mean of 1.50) to hold this "immediately effective" emphasis more strongly than the staff (2.47).

In Question 9 (using Staff Questionnaire numbering) were examined the components of a 'good' UGI vocational course.[4] A seven-point scale was used from 1-"essential" through to 7-"very undesirable". For the question of "makes the graduate immediately valuable to the employer", similar results were obtained (institutions: 1.43; staff: 2.60 - a significant difference).

"ARE"

There was a tendency for both institutions (mean of 3.00) and staff (2.75) to believe that the CAE graduates were not as "immediately effective" as these groups considered that they should be.

[4] *A UGI course is a bachelor degree course, of a minimum of 3 years full-time or equivalent part-time.*

There is a strongly held viewpoint that multipurpose CAE courses should produce graduates immediately effective on graduation, although this viewpoint is more strongly held by institutions than by staff. It would be very interesting to empirically test the extent of this immediate effectiveness of CAE graduates.

A major basis for conceptualizing the respective roles of the universities and CAEs has been provided by Williams (1970) in terms of their "inner logic":

- for universities, their "inner logic" is determined within the universities in accordance with principles based on concepts of excellence (and that this is appropriate because university research undermines the basis of present practices).

- for CAEs, their "inner logic" is determined from outside the CAEs on the basis of their relevance to the needs of industry.

Such a conceptualization appears to be consistent with the Commission on Advanced Education perspectives (e.g. "If colleges should ever ... divert their attentions away from the technological and social needs of the community, then the college system will have failed." (III, § 1.14) However, it is doubtful whether the Commission has acted in terms of the implications (e.g. by attempting on a major scale to survey the needs of industry).

"SHOULD BE"	"ARE"
Institutions and staff agreed that multipurpose CAEs should be more "industry-oriented" 2.17 and 2.19 resp.) and "community-oriented" (1.50 and 2.77 resp.) than universities.	*There was a tendency for institutions and staff to consider the industry-orientation (2.00 and 2.92 resp.) and community-orientation (2.67 and 3.62) to be less than they considered desirable.*
However there was only weak commitment to the statement that multipurpose CAEs should be more "guided by industry" than universities by institutions (3.17) and staff (2.82). (There may have been some confounding in this question due to the viewpoint that industry does not always know the needs of industry.	*The present degree of guidance by industry of CAEs relative to universities was apparently considered by institutions (3.00) and staff (2.99) to be appropriate.*

Thus the question could be interpreted as 'guided by the real needs of industry', or as 'guided by industry's first gross generalized reactions'.)

When asked to "indicate the order of importance you consider the following groups should have in designing the content and structure of a 'good' UGI course," the ranking (beginning with most important) by institutions was:

1. *Teaching Staff of the Course (Mean Rank 1.58).*
2. *Industry (1.92).*
3. *Students (3.67).*
4. *Institution (Educational Officers) (4.00).*
5. *Institution (Administration) (5.00).*
6. *Co-ordinating Body (State) (5.83).*
7. *Co-ordinating Body (Federal) (6.67).*

When asked to indicate "the relative importance of the following criteria in CAE vocational course development for your institution/State" the ranking (beginning with the most important) by institutions was:

1. Discussion with industry via Advisory Committees (Mean of 1.29 on 1 → 5 scale).
2. Staff consensus (2.14).
3. Informal discussions with representatives of industry (2.29).
4. Discussions with past and present students (2.57).
5. Comparison with other CAE courses (2.71) AND
5. Survey of industry's needs by the institution (2.71).
7. Comparison with university courses (3.57).

The 2 State Co-ordinating Bodies who responded considered "survey of industry's needs by the institution" to be very important. (Either they misread the question believing it referred to should be, or they have been misled by CAEs into believing that such surveys are done.)

Although there is strong agreement that the multipurpose CAEs should be more industry-oriented than universities, it would seem that it is believed that this orientation should be that perceived by the academic staff after discussions with industry via advisory committees rather than that perceived by industry.

Given the industry-orientation viewpoint and apparently some lack of belief in industry's guidance, one solution by the institution would be to survey industry's needs. The fact that this is given such a low priority by institutions suggests that they feel they haven't the finance and/or expertise to undertake surveys, that the undertaking of surveys is the role of other bodies (such as the Federal or State Co-ordinating bodies), that surveys are of little assistance in curriculum development, and/or that they have no real wish to meet industry's needs.

Thus it is not clear from the above questions whether multi-purpose CAEs accept William's proposition that their inner logic is determined from outside the CAEs. However, further information is available from the questions about State control and autonomy. In a large system, such as the CAE system, some co-ordinating body would seem to be necessary to ensure the system is relevant to the needs of industry.

"SHOULD BE"	"ARE"
Institutions and staff agree that there should be slightly less control by State authorities of CAEs compared to universities (5.00 and 4.55 resp.). (It could be that they are arguing for more Federal control, but it is much more likely that they would prefer little control.)	*Institutions and staff agree that CAEs are more "controlled by State authorities" than universities (2.57 and 3.24 resp.).*
There is virtually no support for the statement that universities should be more "autonomous" than multipurpose CAEs (institutions: 3.50; staff: 3.83).	*There is very weak agreement that universities are more "autonomous" than CAEs (institutions: 3.33; staff: 3.52).*

It would seem that multipurpose CAEs desire to be freed from State control and to have the same (limited) autonomy enjoyed by the universities. Combined with the lack of performance by multipurpose CAEs in surveying the needs of industry it would seem that there is a lack of acceptance that the inner logic of CAEs is determined from outside the CAEs.

Having examined some major conceptualizations of the role of multipurpose CAEs, we will now discuss the questionnaire in terms of the criteria listed in the first Wark Report (I, § 2.29 to 2.44), viz.:

(A) Character of Students
(B) Vocational and Applied Courses
(C) Difference in Courses
(D) Association of Study with Employment - Part-time Students
(E) Research and Teaching
(F) Close Association with Industry and Other Groups

plus topics not included as topics in this section of the Wark Report, viz.:

(G) Staff
(H) Costs
(I) Manpower and Screening Functions of Higher Education
(J) Continuation of the Binary System
(K) Unresolved Issues relating to the Role of CAEs in Higher Education.

(A) CHARACTER OF STUDENTS

(a) Types of Students

CAE students "will tend to have a different outlook and different needs from those attending the universities, being more interested in the application than in the development of knowledge. They will have already decided on the career they will adopt. University courses, which are often oriented towards academic studies, would be less suitable for many of them ..." (I, § 2.30).

"SHOULD BE"	"ARE"
"analytical and theoretical" - similar to university students (institutions: 4.00; staff: 4.44 for full-time students).	*A tendency for CAE students to be less "analytical and theoretical" than desired (institutions: 4.43; staff: 5.01 for full-time students).*
"radical politically" similar to university students (institutions: 4.50; staff: 4.32 for full-time students).	*A tendency for multipurpose CAE students to be perceived as less "radical politically" than university students (institutions: 5.33; staff: 5.36 for full-time students).*

It would seem that multipurpose CAEs believe that their students should be similar to university students. Certainly they do not support Fraser's contention that there are "two main groups - the practically minded and the analytically minded" (1973, p.18) and the implication that the latter should primarily go to the universities, which "offer an analytical, theoretical kind of education .." (p.17)

(b) Selection of Students

(i) Flexibility of entry requirements

"Other forms of assessment (than matriculation requirements) ... may prove to be more appropriate for entry to and success in colleges of advanced education." (I, § 2.32)

"We urge college councils and administrators to maintain the flexibility to their entry standards ..." (III, § 8.4)

"SHOULD BE"	"ARE"
CAEs should have less "rigid entry requirements" than universities (institutions: 6.16; staff 5.12).	*Tendency for institutions and staff to consider entry requirements to be more rigid than they believe they should be (4.67 and 4.86 resp.).*
The institutions feel that compared to the universities, the multipurpose CAEs should have more "lower academically qualified students" 2.67, but 3 CAEs indicated no difference; staff: 3.59).	*There is a tendency for the institutions to see less difference in academic qualification of entering students between multipurpose CAE and university students than do staff (3.67 and 3.14 resp.).*

Three CAEs indicated that there should be no distinction between CAEs and universities for similar disciplines in the "selection of students in respect of academic ability". Comments included: "CAEs have commitment to equal academic quality"; "The community needs first-class people trained in all professional areas, not only those covered by the universities."

It would seem that while all of the multipurpose CAEs who responded are in favour of less rigid entry requirements than universities, half of the respondents desire the students to be of similar academic ability to university students. This equal academic ability desire probably tends to prevent the attainment of the more flexible entry requirement desire.

(ii) Entry of applicants not direct from secondary school

CAEs "should continue ... to cater for those students who have not come direct from full secondary education". (I, § 2.36)

"SHOULD BE"	"ARE"
There is a strong belief that multi-purpose CAEs should be more "likely to admit students on the basis of a technician course" than universities (institutions: 1.17; staff: 2.56).	*Again, it would seem that the extent of practice tends to be less than the extent of belief in admitting on basis of technician award (institutions: 2.17; staff: 2.83).*

The institutional belief that the technician (i.e. sub-professional) qualification is a suitable basis for admission to multipurpose CAEs is very strong.

(iii) Work experience

There were two viewpoints concerning the distinguishing of CAE and university student selection in terms of work experience. For example:

> "Yes - I'd be willing to give credit for work experience - for entry and on award."

> "No. Work experience can be gained during the course, by periods of field or clinical experience, vacational work, etc."

(B) VOCATIONAL AND APPLIED COURSES

(a) Applied vs theoretical orientation

"In a broad sense it is true that in the colleges there would be a greater applied emphasis in the courses, and that there would be less concern with the subject as a discipline and with the extension of knowledge than in the universities ... while the university is likely to have a greater theoretical content in its courses ..." (I, § 2.37)

CAEs should provide "tertiary education of an applied nature". (III, § 8.5)

"SHOULD BE"

Compared to university courses, CAE courses should be more "oriented to application of knowledge" (institutions: 1.50; staff: 2.22), have more emphasis on applications in later years" (institutions: 3.00; staff: 3.06), and be less "theoretical" (institutions: 5.50; staff: 5.03).

One institutional comment was that the degree of theory should be "sufficient for complete understanding of application".

"ARE"

Again, there is a slight tendency for practice to be considered as less than belief. "Oriented to application of knowledge" (institutions: 2.67; staff: 2.66). "More emphasis on applications in later years" (institutions: 3.00; staff: 3.59). However, it would seem that the present "theoretical" orientation is considered satisfactory (institutions: 5.33; staff: 5.35).

The CAEs who responded indicated a balance of more application and less theory than universities for corresponding courses.

(b) Specific training on job skills

"SHOULD BE"

It was considered that course narrowness with respect to prospective job functions should be similar for university and CAE courses (institutions: 4.17; staff: 3.94). A similar result was obtained for universities being more "oriented to general occupational preparation rather than specific occupational preparation" (institutions: 3.50; staff: 3.54) and stress on "liberal tradition" (institutions: 2.83; staff: 3.59).

It was felt that a good UGI vocational course should teach "specific technical and professional skills" (institutions: 2.43; staff: 2.09), and to a slightly lesser extent should include "general perspective-widening subjects" (institutions: 2.73; staff: 2.45).

Comments included:

"CAE graduate should be immediately employable"; "distinction not so much in specific skills as more applied emphasis"; ".. in a limited way only"; "emphasis to remain with understanding rather than skill". Generally comments supported some distinction with more emphasis on job skills in CAEs than in universities.

"ARE"

It was considered that there was little difference in extent of course narrowness between universities and CAEs (institution: 4.00; staff: 3.30), extent to which university was more "oriented to general occupational preparation (institutions: 3.33; staff: 3.49), and stress on "liberal tradition" (institutions: 2.67; staff: 3.49).

It would seem that CAEs prefer some slight emphasis on specific training in job skills in CAE courses compared to university courses, provided that this does not relatively narrow the range of prospective job functions.

(c) Training for adaptability

"If the diplomas are to provide an adequate education for a changing world ..." (I, § 2.37

"SHOULD BE"	"ARE"
There was no support that CAE courses (compared to university courses) should be more "oriented to widening horizons" (institutions: 3.50; staff: 3.62) or should be less "inclined to educate graduates to be adaptable to changing roles in the work situation" (institutions: 3.33; staff: 3.53). (the slight reversal in the above two propositions could relate to response tendencies (i.e. tending to mark 1 → 4 rather than 5 → 7).)	*Little difference is seen between CAE and university courses. "oriented to widening horizons' institutions: 4.17; staff: 4.61. "graduates to be adaptable ..: institutions: 3.67; staff: 4.00.*

It was felt that CAE and university courses should have the same emphasis on adaptability of graduates.

(d) Maintaining academic standards

"SHOULD BE"	"ARE"
A very slight indication that compared to multipurpose CAEs, the universities should be more "oriented to academic standards" (institutions: 3.33; staff: 3.52). Verbal comments of institutions reinforce the belief that the "standards" should be the same for similar courses in multipurpose CAEs and universities, and included the slogan "Equal but different". However, co-ordinating	*A very slight indication that universities are believed to be more "oriented to academic standards" (institutions: 3.17: staff: 3.42).*

bodies do see a difference: "Because of greater theoretical component, academic standards of university courses are likely to be higher"; and "universities should be more rigid - CAEs more concerned with ability of man to be successful in a work situation - and academic standard is not the only criterion."

No difference is seen in "student discontinuance rate" (institutions: 3.67; staff: 4.01), and a neutral position is adopted with respect to the desirability or not of a "high student drop-out rate" as a feature of a 'good' UGI vocational course (institutions: 3.5; staff: 3.53).

No difference is seen in "student discontinuance rate" (institutions: 3.83; students: 3.68).

An examination of the "relative importance of the following criteria in CAE student assessment" shows that "necessity to maintain a good standard" dominates.

On a 1 (very important) to 5 (of little importance) scale, the following means were obtained for State Co-ordinating Bodies and institutions respectively:

(i) necessity to maintain a good standard (1.5; 1.57);
(ii) 'objective' measures based on industry's needs (2.5; 3.00);
(iii) measures based on teacher's evaluation of industry's needs (3; 3.07);
(iv) student's relative position in class (3; 3.50);
(v) rate of improvement (3.5; 3.50);
(vi) necessity to maintain a good pass rate (4.5; 3.93).

Thus multipurpose CAEs believe that their standards should be the same as universities for comparable courses, and they place prime importance on maintaining standards in their assessment procedures.

(e) Scholarship

"It would be unfortunate if the accent on scholarship - through subject specialization - that has for so long been a strength of university education were to be weakened by this movement. It would be equally unfortunate if the opposite movement - for technological institutions to swing too far towards an academic outlook - became marked." (II, § 10.7).

"SHOULD BE"

There was a tendency for the belief that the universities, compared to the multipurpose CAEs, should be more "oriented to intellectual scholarship" to be more strongly held by institutions (2.17) than by staff (2.99).

"ARE"

A similar tendency was displayed in believing that universities are more "oriented to intellectual scholarship" by institutions (1.83) and staff (3.00).

There was a tendency for institutions to believe more strongly than staff that universities should be and are more oriented to scholarship than multipurpose CAEs.

(f) Provide relevant experience

"SHOULD BE"

There was a significantly stronger belief that full-time students at multi-purpose CAEs compared to full-time students at universities should be "able to gain industrial experience" by institutions (1.33) compared to staff (2.74), and a similar tendency for "able to gain experience directly relevant to an employer" (2.17 and 2.99 resp.). A very similar set of results was obtained for part-time students.

Institutions (2.29), but not staff (3.37), believe a 'good' UGI vocational course should make "on-the-job experience mandatory during the course".

"ARE"

Again, the practice is apparently considered to be less extensive than the belief. For full-time students - "able to gain industrial experience": Institutions 2.67; staff 3.31, "able to gain experience directly relevant to an employer" : Institutions 3.33, Staff 3.24. A similar set of results was obtained for part-time students.

Despite the very strong institutional beliefs in providing relevant industrial experience, it would seem that there may be little difference in fact between universities and multipurpose CAEs in this regard.

(C) DIFFERENCE IN COURSES

(a) Fringe courses

"... the colleges offer courses in areas which universities may regard as marginal or inappropriate." (I, § 2.38)

"SHOULD BE"	"ARE"
There was a belief that, compared to universities, the multipurpose CAEs should offer more courses in "specific subject areas (journalism, physiotherapy, etc". (Institutions: 2.17; staff: 2.57).	*Again, in practice it is believed that there is relatively little difference between course offerings in "specific subject areas". (Institutions: 3.00; staff: 2.96.)*

The alleged small difference in offering "fringe courses" by multipurpose CAEs compared to universities could be due to an unstated belief that really the smaller CAEs should provide the "marginal or inappropriate" courses.

(b) Levels of undergraduate courses

"If colleges should ever ... give priority to degree courses while diploma courses are allowed to languish ... then the college system will have failed." (III, § 1.14)

"The bulk of work in colleges of advanced education will be in (UG2 and UG3) courses." (III, § 1.23)

"(The Commission's) concern is to ensure that diploma courses are retained." (III, § 8.8)

"... the Commission is concerned that in some instances the quest for status may be overriding educational needs ... College councils are asked especially to examine most carefully any proposals to redesign existing diploma courses..." (IV, § 3.9)

"Certain higher technician courses meet the criteria with respect to level of entry and length of course to qualify for Commonwealth Advanced Education Grants and we believe the colleges must increasingly concern themselves with these courses." (II, § 1.23)

"In its previous Reports the Commission has drawn attention to the need for courses of two years of full-time post-secondary study or equivalent leading to the award of an Associate Diploma. We have the impression that there has been a reluctance to introduce or continue such courses although there is often substantial evidence that employers in a number of fields are seeking people with this type of qualification." (IV, § 3.7)

"SHOULD BE"	"ARE"
It was believed that the multi-purpose CAEs should have more "higher-technician courses" than the universities (institutions: 1.83; staff: 2.63).	*It was believed that the multi-purpose CAEs provided more "higher-technician courses" than the universities (institutions: 1.17; staff: 2.55).*

An attempt was made to gauge the beliefs of CAEs concerning course levels in the guise of a question on financing.

Brown (from ACAAE) responded: "The main argument about financing some courses is whether there is a real need for a 4 year course in some disciplines when a 3 year one would be satisfactory, and whether a UGI type course is necessary sometimes when a UG2 course would be sufficient training for the community need at this stage."

The institutions who responded to this question gave the following listing of priorities:

PRIORITY	INSTITUTION				
	a	b	c	d	e
1	PG1	All equal priority	UG3	UG1[3]	All UG's
2	PG2		UG2	UG2[3]	
3	UG3		PG1	PG1	
4	UG1[1]		UG1	UG3	All PG's
5	UG2[2]		PG2	PG2	

[1] "There is already much activity at this level, only need for somewhat more generous funding."

[2] "Personally doubt need for this level, exact nature of which is not clearly defined by ACAAE."

[3] "Basic job of CAEs is at this level."

This issue is of a different nature to most others, because since the Martin Report universities have been consistently shedding all sub-degree courses. Perhaps this issue relates to the only qualitative difference between universities and multipurpose CAEs.

It would seem that at least two different bases were used by institutions in determining their priorities: (1) the overall priority by the college, or (2) the priority in terms of future development. There is no evidence of high priority being given to UG2 and UG3 courses; a more precise finding could be determined by examining trends in new courses introduced into multipurpose CAEs in the last two triennia, together with courses withdrawn during this period.

(D) ASSOCIATION OF STUDY WITH EMPLOYMENT - PART-TIME STUDENTS:

"While it is true that most colleges aim at securing an increasing number of full-time or sandwich type students, and aim also to modify the part-time system by encouraging greater attendance in the day, the distinction between the colleges and the universities in terms of providing education for part-time students who are generally in related employment, remains a valid and important one." (I, § 2.39)

"If colleges should ever ... concentrate on full-time students to the exclusion of part-time students ... then the college system will have failed." (III, § 1.14)

(a) Part-time attendance pattern

"SHOULD BE"	"ARE"
There was a strong belief that multi-purpose CAEs should have more "part-time courses" than universities (institutions: 1.67; staff: 2.17).	*There was a strong belief that multipurpose CAEs have more "part-time courses" than universities (institutions: 1.50; staff: 2.32).*
There was also strong support for the statement that a 'good' UG1 vocational course "provides opportunity for part-time study" by institutions (1.67) and staff (1.99).	
Some of the institutions commented that universities should expand their evening courses. The Co-ordinating Bodies also believed in evening courses in CAEs because of their alleged suitability for vocational education.	

There was thus strong support for the Commission's viewpoint of the importance of part-time courses.

(b) Sandwich attendance pattern

"Sandwich courses offer the student a desirable alternative to both full-time and part-time courses ... we believe sandwich courses are appropriate to the ideals of the colleges and valuable for students." (III, § 4.5)

"SHOULD BE"	"ARE"
There was a reasonably strong belief that multipurpose CAEs should have more "sandwich courses" than universities by institutions (2.17) and staff (2.47).	*In practice it would seem that less "sandwich courses" are available than are considered desirable (institutions: 2.83; staff: 3.14).*
There is a tendency for a stronger belief that a 'good' UGl vocational course "uses a sandwich programme" to be held by institutions (2.83) compared to staff (3.42).	
Comments by institutions comparing university and multipurpose CAE provision of sandwich courses ranged from "no difference", "where applicable universities should offer sandwich courses", to "all CAE courses should be sandwich". Another comment was: "organizational problems with industry tend to outweigh college policy".	

It is hypothesized that actual and postulated organizational problems have tended to hinder the development of sandwich courses to the extent desired.

(c) External courses

"The Commission considers that external studies courses fill a very real need in the community." (III, § 8.50)

"We would like to see a further development of external studies in the next triennium." (III, § 4.6)

"SHOULD BE"	"ARE"
There is some agreement that multipurpose CAEs should offer more "external courses" than universities (institutions: 2.33; staff: 3.18).	*It is believed that universities and multipurpose CAEs offer "external courses" to the same extent (institutions: 3.33; staff: 3.93).*

As for other issues, the answer of each institution or staff member depends on the conceptual framework held towards universities and multipurpose CAEs. Thus a respondent who held that the types of courses provided by each set of institutions were quite different in approach could see each set of institutions offering external courses to an approximately equivalent extent.

(E) RESEARCH AND TEACHING

(a) Teaching vs Research

"A primary emphasis on teaching." (I, § 2.42)

"Quality in teaching should be regarded as of paramount importance." (I, § 2.40)

"If colleges should ever emphasize research at the expense of undergraduate teaching ... then the college system will have failed." (III, § 1.14)

"The colleges of advanced education have a primary commitment to teach." (IV, § 2.18)

"It should be stressed, however, that it is the Commission's view that research should form only a small component of college activities and that the teaching function to which it is related should continue to be of prime importance." (IV, § 3.37)

"SHOULD BE"	"ARE"
It is considered that, compared to universities, multipurpose CAEs should be more "teaching-oriented" (institutions: 1.50; staff: 2.71) and less "research-oriented" (institutions: 5.17; staff 5.10).	*There is a belief that compared to universities multipurpose CAEs are more "teaching-oriented" (institutions: 2.33; staff: 2.62) and much less "research-oriented" (institutions: 6.33; staff: 6.03).* *Co-ordinating bodies and CAEs did not feel that staff were strongly motivated to do research in order to improve teaching. On a seven point scale investigating actual motivation for research of 1- very important to 7- very unimportant,*

the ranking was (i) keeping staff in the 'mainstream' of their disciplinary knowledge (institutions: 2.14); (ii) promotion or career advancement (2.86); (iii) improving teaching (3.43); and (iv) pleasure or interest (3.86). Another procedure produced the same ranking by the institutions.

It would be expected that pressures will develop to increase the extent of research in multipurpose CAEs from the present perceptions of low research to a reasonable amount of research.

(b) Student oriented in teaching methods

"SHOULD BE"

There was a tendency for the viewpoint that compared with university courses, multipurpose CAE courses should be more "student-oriented in teaching methods" to be more strongly held by institutions (1.67) than by staff (2.63). A similar tendency was noted with respect to the belief that a 'good' UGI vocational course "allows the student to proceed at his own pace" (institutions: 2.33; staff: 3.44); (perhaps the staff feel that self-paced teaching methods would be more time-consuming for them.)

"ARE"

It would seem that less attention is paid to "student-orientation in teaching methods" than is believed desirable (institutions: 3.17; staff: 2.95).

It would seem that the commitment of CAEs to teaching is not very evident with respect to a student orientation in the teaching methods actually used.

(c) Postgraduate courses

"In the colleges there would be ... far less attention to post-graduate training." (I, § 2.42)

"We take the view that the major concern of colleges is to cater for students who seek to obtain a first tertiary qualification." (IV, § 3.6)

"SHOULD BE"

It is believed that, compared with the universities, the multipurpose CAEs should have more "undergraduate courses" (institutions: 2.17; staff: 2.98), but a similar extent of "postgraduate courses" (institutions: 4.17; staff: 4.17).

(It would have been expected that the answers to these two questions reflected a balance between undergraduate and postgraduate courses, assuming that the percentages of each in terms of courses or in terms of student numbers were being considered. Perhaps some respondents were answering in other terms - e.g. absolute numbers of students.)

Further information has been presented in Section (C) (b), where it is seen that the multipurpose CAEs gave varying priorities overall to PG1 and PG2 courses, but tended to give a higher priority to PG1 (graduate diploma) than to PG2 (master's degree) courses. (It must be remembered that some of the largest CAEs did not respond.)

"ARE"

It is considered that, compared with the universities, the multi purpose CAEs have very slightly more "undergraduate courses" (institutions: 2.67; staff: 3.45), but less "postgraduate courses" (institutions: 5.00; staff: 5.84).

A question was asked whether multipurpose CAEs should offer Ph.D. courses. Brown (Chairman, ACAAE) wrote: "No. A Ph.D. is too closely associated in everyone's mind with research work. The CAEs should not try to compete with universities in research work and any higher degree should be for other type work and have a different title."

However, State Co-ordinating bodies said 'yes'. Body A:

"Some CAEs might offer doctoral programmes (not necessarily the Ph.D.) which need not necessarily be research qualifications but which might involve research, course work, and, perhaps, an internship or work experience component. Some CAEs, as special status institutions, will in time be just as well placed to offer work at this level as are some universities but this should not be rushed."

Body B: "Some form of research training doctorate - not necessarily with the Ph.D. title - is needed for the same reasons that it is needed in universities. I should hope that CAE doctorates would be concerned with research at the "applied" end of the spectrum that ranges from pure research at one end to applied research at the other."

In general, the larger CAEs wished to see multipurpose CAEs offering Ph.D degrees, while the smaller CAEs did not support the statement. Comments were:

"The best students are as good as the best University students and should have the same opportunity for higher studies. The staff should have the experience of supervising higher degrees. The Ph.D. itself should, ideally, be industry-based."

"Should be industrially based. Could be awarded for work carried out in industry jointly supervised by CAE and industry."

"Field oriented, "hands on" within the context of R & D, emphasis on D."

"A guarded "yes" in that I would not like to see them done the same way as Universities necessarily, i.e. by full-time research workers, but should be available to those in industry, commerce etc., whose "on the job" performance warrants the award."

"CAEs do not have the mission, traditions, academic staff or libraries to offer the Doctorate and if they were to acquire these in the future it would be at the expense of providing education to students at lower academic levels."

There would seem to be a belief among at least some State co-ordinating bodies and multipurpose CAEs that the latter should offer postgraduate courses to the same extent as universities.

(d) Type of Research

"In the colleges there is comparatively little scope for research. However, we would expect that some members of staff would devote a measure of their time to investigations which had a direct application to industry." (I, § 2.40)

"... the Commission considers it desirable that some staff be able to engage in a limited amount of research, but believes that this should preferably be of an applied nature." (IV, § 3.37)

"SHOULD BE"	"ARE"
There is agreement that, compared to the universities, the multipurpose CAEs should have more "applied research than pure research" (institutions: 2.50; staff: 2.23).	*It is considered that the small amount of research conducted by multipurpose CAEs is similar in degree of purity/application to universities (institutions: 4.33; staff: 3.94).*

The reasons for the apparent divergence between belief and practice are worthy of investigation.

(F) CLOSE ASSOCIATION WITH INDUSTRY AND OTHER GROUPS

"In the colleges there would be a more direct and intimate relationship with industry and other relevant organizations." (I, § 2.42)

"If colleges should ever ... divert their attentions away from the technological and social needs of the community, then the college system will have failed." (III, § 1.14)

"SHOULD BE"	"ARE"
There was a strong belief that, compared to universities, multi-purpose CAEs should have more "ties with industry" (institutions: 1.83; staff: 2.26), and that CAE staff should have more "contact with industry" (institutions: 1.33; staff: 2.41).	*In practice, it would seem that CAEs had only very slightly more "ties with industry" than universities (institutions: 3.17; staff 3.02) and CAE staff had only very slightly more "contact with industry" than university staff (institutions: 3.33; staff: 3.18).*

In practice, it would seem that there is less contact with industry than is desired by institutions and staff. This difference may be due to a real or imaginary feeling that there is insufficient time for such contacts, or may be due to a wish to ensure that CAEs are not dominated by industry. (This latter alternative would be consistent with

the earlier conclusion in the introduction of this chapter that there is a lack of acceptance that the inner logic of CAEs is determined from outside the CAEs.)

(G) STAFF

In the first Commission on Advanced Education report, no section was devoted to staff in the analysis of the differences between universities and CAEs. Passing references were made to staff in the sections on "research and teaching" and "close association with industry". It would seem that it was insufficiently realized that unless the staff held the same viewpoints of CAEs as did the Commission, there would be a tendency for the staff to ape the institutions where they were trained - the "narrowly based", "restricted in outlook"* technical colleges or the more research-oriented universities. As CAEs would seek prestige by appointing staff with higher academic qualifications, it would be expected that there would be more attempts to emulate universities (and to seek to become universities, at least in name) by trying to present the CAEs as research-oriented and as offering a wide range of postgraduate courses.

(a) Teaching expertise

"... quality in teaching should be regarded as of paramount importance. This should be recognized when making appointments and considering promotions." (I, § 2.40)

"The teaching function of the colleges is of primary importance. It is therefore highly desirable that all lecturers receive training in educational methods." (II, § 5.15; III, § 7.13)

"The colleges of advanced education have a primary commitment to teach. Accordingly we would expect to see colleges operating promotion arrangements which will permit the highly successful teacher to continue to teach without suffering financially." (IV, § 2.18)

* I, § 2.43

"SHOULD BE"	"ARE"
There was a slight belief that compared to universities, multi-purpose CAE staff should have more "training in teaching methods" (institutions: 2.17; staff: 3.06), but a much stronger feeling that a 'good' UG1 vocational course "requires teaching staff to improve their teaching techniques" (institutions: 1.5; staff: 1.57).	*It was considered that the difference in "training in teaching methods" between staffs from universities and multipurpose CAEs was slight (institutions: 3.00; staff: 3.17). (It would seem that many CAEs do not have specific programs of staff development.)*

Despite the strong feeling that good vocational education requires good teaching, there is also the feeling (especially of staff) that multipurpose CAEs do not and should not vary a great deal on this characteristic from universities.

(b) Academic qualifications

"If colleges should ever ... appoint staff solely on the grounds that they have obtained certain traditional academic qualifications ... then the college system will have failed." (III, § 1.14)

"SHOULD BE"	"ARE"
On the seven point scale from 1- "essential" to 7- "very undesirable" concerning the characteristics of a 'good' UG1 vocational course, a close to centre position for "requires teaching staff to have high academic qualifications" was taken by institutions (3.33) and staff (3.17). However, both the State co-ordinating bodies who responded chose 1 (essential) and 2.	

It seems that the State co-ordinating bodies may be more interested in the 'qualifications race' than multipurpose CAEs (i.e. possibly apart from the 3 large institutes of technology who apparently felt they may be prejudiced if they responded).

(c) Research experience

"SHOULD BE"

There was a weak belief that, compared to university staff, multipurpose CAE staff should have less "published research papers" (institutions: 5.50; staff: 4.92). A centre position was chosen for a good UG1 vocational course with respect to "requires teaching staff to have relevant research experience" (institutions: 4.00; staff: 3.24). However, the responses of the two State co-ordinating bodies were 2 and 3.

"ARE"

It is considered that multipurpose CAE staff have published many less research papers than university staff (institutions: 6.00; staff: 5.97).

There would seem to be a desire by staff to see more research being conducted in multipurpose CAEs.

(d) Work experience

"... practical experience in industry is an important component in the overall qualifications required in college lecturers." (II, § 4.11)

"SHOULD BE"

It was agreed that, compared with university staff, multipurpose CAE staff should have more "industrial experience" (institutions: 1.50; staff: 2.31). A similar response was obtained on question : a 'good' UG1 vocational course "requires teaching staff to have relevant experience" (institutions: 1.71; staff: 2.25).

"ARE"

There was a slight tendency for the actual amount of "industrial experience" to be less than considered desirable (institutions: 2.50; staff: 2.60).

Industrial experience was clearly recognised as being important.

(e) Consultancy experience

"It is essential for the colleges to continue to explore and develop their relationships with industry, to encourage exchange of staff, professional consulting, and investigational work on practical industrial problems." (II, § 1.19)

"While teaching is the primary function of colleges, appropriate members of staff should be encouraged to spend some time on investigational work for industry." (II, § 5.5)

"SHOULD BE"	"ARE"
It was believed, especially by institutions, that multipurpose CAE staff should have more "current industrial consulting interests" than university staff (institutions: 1.83; staff: 2.88).	*In practice, it was considered that there was no difference between CAE and university staffs with respect to "current industrial consulting interests" (institutions: 4.17; staff: 3.85).*

The apparently lower degree of consulting being performed compared to amount desired could be due to lack of real interest by CAE staff, lack of time available to them, or lack of opportunity to undertake industrial consulting.

(f) Study leave

"Study leave should not be granted as an employment right but there should be flexible arrangements enabling selected members of staff to obtain leave for appropriate purposes ..." (II, § 5.4)

The State Co-ordinating bodies who responded seemed implicitly to suggest that study leave should be automatic, and stated that it should be less than 12 months but should be granted more frequently. One comment:

"Study leave should not normally be granted to enable a member of staff to improve his academic qualifications but mainly for professional development involving a broadening of experience and knowledge by working in a different educational or work environment. Twelve months is generally too long, particularly if it means study leave at intervals of

six to seven years. It would be preferable to have up to six months (but perhaps two or three months) more frequently."

The multipurpose CAEs generally favoured, apparently automatically, a period of 12 months after every 6 years. There was one exception: 3 months every 3 years.

For two questions relating to study leave being "more effective spent overseas than at home" and "more effective spent in industry than in educational institutions", the State Co-ordinating bodies and most of the CAEs adopted a neutral position.

(H) COSTS

"At the political level, do our members of parliament wish to see these colleges achieve full status as independent, autonomous, tertiary institutions at the general international level of such establishments, or will they be content to provide some inferior, cheaper form of tertiary education to avoid the expense of creating more universities?" (Law, 1969, p.241)

"SHOULD BE"	"ARE"
It was strongly felt that universities and multipurpose CAEs should be as "costly for society" as each other, (Institutions: 4.00, zero standard deviation; staff: 4.20) and that there was relatively little difference in efficiency in use of resources (Institutions: 3.33; staff: 3.28). On the 1 → 7 scale concerning a 'good' UG1 vocational course, a position of strict neutrality was adopted for the characteristic "Keep down costs to the taxpayer" (Institutions: 4.5; staff: 3.95). In another location on the questionnaire, comments were invited concerning the relative costs of similar courses in universities and multipurpose CAEs.	*It was considered that, compared to universities, multipurpose CAEs were less "costly for society" (Institutions: 5.50; staff: 5.20), and were about as "efficient in use of resources" (Institutions: 3.00; staff: 3.64.*
	Respondents were asked to comment on the adequacy of funds at each of the 5 different course levels (UG1, UG2, UG3, PG1, PG2). For the ACAAE and the one State Co-

One respondent from a State Co-ordinating Body wrote: "It should be cheaper to offer the range of undergraduate and graduate courses in CAEs than in universities because of the lower resource requirement ..." However, only one CAE agreed; the others felt that funds per EFTS should be similar ("anyone taking the position that CAE courses could or should be less costly is blind to the facts of life!"; "Should be adequate to allow a truly "equal but different" course.")

ordinating Body which responded, both considered that funds for courses at all levels were adequate. However, all five CAEs who responded considered that funds for courses at all levels were inadequate.

The multipurpose CAEs considered that they were funded less well than universities, that this level of funding was inadequate, and desired the same funds/student on an EFTS basis as universities.

(I) MANPOWER AND SCREENING FUNCTIONS

(a) Manpower

"... Russia balances the number of places in tertiary education against estimated needs and employment opportunities ... Australia seems to have adopted the philosophy that anyone who is able to complete secondary schooling with moderate success should be allowed to commence tertiary education if he so desires." (II, § 10.12, § 10.16)

"SHOULD BE"

Little difference was expressed between universities and multi-purpose CAEs. "Manpower-oriented": Institutions: 3.67; staff: 3.50.

"Planned with respect to manpower forecasts": Institutions: 3.67; staff: 3.24.

Neutral positions were taken for the item that a 'good' UG1 vocational

"ARE"

Little difference was expressed between universities and multi-purpose CAEs.

"Manpower-oriented": Institutions: 2.83; staff: 3.57.

"Planned with respect to manpower forecasts": Institutions: 3.33; staff: 3.76.

course "restricts number of student places to that determined by manpower needs" (Institutions: 4.86; staff: 3.66).

It was felt that multipurpose CAEs should and do take the same position on the continuum between "planned with respect to manpower forecasts" and social demand as the universities.

(b) Screening

"Many employers use a tertiary qualification as a means of selecting highly trained manpower ..." (Universities Commission, 1975, § 4.62)

"But this interest in "attainment" has been focused on the credentials of education ... rather than on the learning.

... most employers simply raised educational requirements without changing the nature of the jobs. There are probably a number of reasons for their actions, ranging from using credentials as a means of excluding the "undesirable" ... " (O'Toole, 1973, p. 135.)

" ... the use of educational credentials as a screening device ..." (Berg, 1970, p.183)

"SHOULD BE"	"ARE"
Little difference between universities and multipurpose CAEs was expressed for "likely to prevent unsuitable people from becoming professionals". (Institutions: 4.00; staff: 3.91). (However, rather than being viewed as an item directly related to "credentialism", respondents could have understood the item to refer to people who were not able to attain the educational objectives of the course. Such an interpretation is also possible for	*Little difference was considered to presently exist with respect to preventing unsuitable people from becoming professionals. (Institutions: 4.17; staff: 3.88).*

another item) : a 'good' UG1 vocational course "earns a reputation amongst employers for success in screening out or excluding incompetent persons", considered slightly desirable by institutions (3.43) and somewhat more so by staff (2.57).

No difference was seen in screening functions between universities and multipurpose CAEs.

(J) BINARY SYSTEM

"Australia has at this stage firmly adopted a binary system of tertiary education." (II, § 10.8)

With two exceptions, respondents from the co-ordinating bodies and multipurpose CAEs favoured the continuation of the binary system.

The comments against the continuation of the binary system are as follows:-

From a State co-ordinating body:

> "The 'binary system' is somewhat artificial as there is really a continuum of tertiary education institutions from the traditional kind of Australian university to the small single purpose CAE. One or two (new) universities are rather like multipurpose CAEs. The binary outlook tends to be perpetuated by the two Commonwealth funding recommending bodies (the Universities Commission and the Commission on Advanced Education) but conceivably an amalgamation or union of the UC and the CAE and the development of several CAEs to the stage where they have the maturity and standing of universities will reduce the tendency to regard tertiary education institutions as falling into one or other of these two categories. One 'system' of higher education for the nation incorporating a diversity of different institutions would, in the long run, seem to be desirable in the interests of providing a more comprehensive range of educational opportunities and to enhance the possibility of free flow of people between institutions including ease of transfer of credit for work completed in one institution in the next."

From a large multipurpose CAE:

"I am attracted to the scheme proposed in the recent report to the Poverty Commission, on Community Colleges, which sees one or two large multipurpose CAE's in each State becoming Universities, and the smaller CAE's merging with the TAFE system to become Community Colleges in the US or Canadian pattern."

The late response did not favour the continuation of the binary system. It recommended:

"A co-ordinated system providing a diversified spectrum of post-secondary institutions varying in nature according to local circumstances and needs. Suitable balance of emphasis on research, application, general education, and various levels of courses over the system as a whole."

The following comments were given in answer to the question -

Assuming the continuation of the present higher education binary system comprising CAEs and universities, what changes should occur with respect to universities and multipurpose CAEs?

Responses (a), (b) and (c) are from the ACAAE and State Co-ordinating Bodies; the remainder are from multipurpose CAEs.

(a) (1) Universities: "Restrict entry to reduce numbers and concentrate on scholarship and research for the few rather than vocational training for the many."

(2) Multipurpose CAEs: "Take more of the students seeking vocational training and be sure that they maintain a close link with industry and concentrate on teaching and training."

(b) (1) "Universities should continue to focus their primary energies towards research and the advancement of knowledge in addition to their existing teaching commitment at the undergraduate (bachelor degree) and postgraduate levels. They should remain the elite institutions of higher education."

(2) "Multipurpose CAEs should ensure that they maintain a distinctive vocational orientation and commitment to the provision of courses at the undergraduate (UG3, UG2 and UG1) and to a lesser extent postgraduate (particularly PG1) levels."

(c) (1) Universities: "I hope universities will cease to struggle to compete with CAEs in proliferating courses and providing for the expanding requirements for specialized vocational training and trying to attract increased enrolments. They should get out of the market place, adopt a more "elitist" scholastic stance, and leave the rest to the CAE."

(2) Multipurpose CAEs: "It is their job to cater for the needs of the community as regards professionally trained people in an ever increasing number of specializations."

(d) (Large Multipurpose CAE)

(1) Universities: "No more than is already occurring under the stimulus of competition from the CAEs - of the new Griffith University, whose specification reads like a CAE."

(2) "Multipurpose CAEs should become Universities, with a charter (Act) expressing their characteristic role."

(E.W. Mills, S.A.I.T.)

(e) (1) Universities: "Maintenance of selective role, first degrees, higher degrees, P/G diplomas with emphasis on 'cerebral' input."

(2) Multipurpose CAEs: "Practical orientation maintained, close links with employer groups and the world of work.

Increasing attention to be given retraining, short courses, and what we now (internally) describe as quaternary level courses.

We would envisage, however, the evolution of "leagues" or "divisions" particularly within the CAE sector.

The decision to encompass some quasi-tertiary level institutions within the CAE sector has diminished the standing of some of the longer established institutions (e.g. RMIT) in some eyes."

(f) (1) Universities:

(2) Multipurpose CAEs: "(i) move toward "openness" in entry qualifications;
(ii) be more fluid in introducing courses;
(iii) develop different emphases between CAEs."

(g) (1) Universities: "Less lavish finance."

(2) Multipurpose CAEs: "More equitable finance."

(h) (1) Universities: "Moving toward CAE mode of operation. How about making them "elitist" non-vocationally oriented with possible exception of law and medicine - maybe grad. eng. Concentrate on Arts and graduate level programs."

(2) Multipurpose CAEs: "Move into UG3 area more rapidly. Slough off PG2. Break out of tie-in with economic manpower needs. Place more emphasis on process and less on content."

(i) (1) Universities: "Should not expand their "vocationally" oriented courses. Above all should not openly "poach" students from CAEs."

(2) Multipurpose CAEs: "Should be more realistic. Should not try to emulate Universities, should develop specializations. Should more openly encourage "good" teaching."

(j) (1) Universities: "Should concentrate on graduate instruction and the creation of new knowledge."

(2) Multipurpose CAEs: "Should emphasize "terminal" sub-degree and first degree work as well as community service.

I favour the continuation of the binary system in the form suggested above and provided that new TAFE and community colleges are amalgamated with CAEs."

(k) Late Response

(1) Universities: "Depends on where university is. Outside major cities may need to be more comprehensive. In major cities where also significant CAE's more specialisation. University concentrating more on research and general education offerings will depend somewhat on history of individual institutions."

(2) Multipurpose CAEs: "Maintain vocational/professional orientation with emphasis on performance. Special responsibility to relate to technical and further education in a continuing education sense. Special concern also for part-time students."

There would appear to be some differentiation in replies between larger and smaller multipurpose CAEs. The larger CAEs tend to see themselves as quite distinct from the smaller CAEs, and would apparently either like to become universities (as expressed by SAIT) or to become more autonomous (and presumably removed from the CAE system). The latter alternative was favoured by RMIT in 1971, as illustrated by the following statement:

"RECOMMENDATION

RMIT does not seek to be called a University, because it wishes to retain the role of ministering to the vocational education needs of the people of Victoria. However, it does want to be a fully autonomous and authoritative educational institution with its own identity and able to carve out its own destiny. In view of the abovementioned continuing unfulfilled need of Victoria for an advanced technological institution, my Council believes that the Fourth University proposal presents the opportunity to satisfy the need by recommending that RMIT become an

"Institute of Technology" in fact, on the accepted world pattern, as was almost achieved in 1947."

(Royal Melbourne Institute of Technology, Submission to the Victorian Fourth University Committee, "A case for the Royal Melbourne Institute of Technology as a fully autonomous institute of technology", June 1971.)

(K) THE MOST CRUCIAL UNRESOLVED ISSUES RELATING TO THE ROLE OF THE CAEs IN HIGHER EDUCATION

The following are the complete answers of the respondents.

(a) H. Brown (Chairman, ACAAE)

1) The level of course and award for subjects such as painting, sculpture, graphic arts, etc.

2) The question of 4 year or 3 year courses for some UG1 awards in some fields such as education and teaching, paramedical subjects and a few others.

3) The tendency for some professional groups to push for 4 year degrees when the community need and level of education can be met by a 3 year diploma for most purposes.

4) The relative functions of CAEs and professional institutions in setting the level for awards and for entry to the institutions.

5) Preventing the CAEs from slipping more and more into the pattern of a normal university because of the attitude of staff who have often been recruited from university staff.

(b) State Co-ordinating Boards

(i) CAEs appear still to be searching for a role in higher education, particularly in relation to the universities and, to some extent, with regard to technical and further education institutions. In this connection there is the problem of institutional aspirations as compared with community

expectations. The future means of governance of large multi-purpose CAEs (as distinct from small and less well-developed CAEs) is likely to emerge as one of the most crucial unresolved issues facing CAEs.

(ii) The development of investigational work (including applied research) by staff.
The development of research degrees.
The relationship between Commonwealth and State authorities in regulating the development of CAEs.

(c) Multipurpose CAEs

(i) 1. The large CAEs are offering courses which, in many areas, are no more different from the corresponding University courses than are the University courses different from each other; they are simply providing students with a broader choice of styles of higher education based on differing traditions, locale, staff background etc. The development of some, at least, of these CAE's is being hindered by the somewhat over-directive nature of the Advanced Education system, which itself is confused by the attempt to reconcile the often conflicting needs of at the one extreme the large multipurpose Colleges, and at the other extreme the small single purpose Colleges. A separate higher education sector consisting of all large multipurpose institutions, both University and CAE (whether or not the latter were renamed Universities) would aid public understanding and facilitate planning.

2. An attempt must be made to deal with the multiplication of small institutions, and with their unnecessary urge to become, if not multipurpose at least several-purpose. Some amalgamations and some eliminations may be called for.

(E.W. Mills, SAIT)

(ii) 1. Extent to which [illegible] move into UG3 level.
2. Emphasis on Research.
3. Relationship to TAFE.
4. Extent to which College existing in area remote from Uni. should provide Arts Courses.

5. Relationships to Prof. institutions.
6. Stress of Comm. thinking on economic manpower needs.
7. Almost complete discounting of importance of education concept - lip service only.

(iii) These for starters

- Emphasis on degree level work;
- How "comprehensive" should they be in terms of academic level?
- How much autonomy?
- In-service staff development : How?
- Optimal size and distribution;
- Role in informal community education;
- Financing.

(iv) Exactly how far they can expand. Will the Universities allow the CAE's to become a threat to their existence? Where are the staff to come from? How is it possible to attract well qualified people with work experience from industry where their salaries and side benefits are likely to be better?

(v) Late Response

The continued attempt at clear cut dichotomies. Due to history, location and changing demands universities and colleges form two overlapping spectrums. This should be explicitly recognised: Because of the great diversity of CAEs perhaps the division should now come at another point. Role of colleges in research or research in the Colleges which I suspect is as much a debate about status salaries and working conditions as it is about research as such.

The balance between general and vocational education having in mind the future needs for flexibility. Role of colleges in continuing education.

Summary and comments on the institutional perspective

(1) The averaging of the responses of the institutions does result in a generalized picture of the desired role of multipurpose CAEs similar in many characteristics to the Wark 1 Report model.

This communality of responses can be viewed in the framework of the slogan "different from but equal to".

(i) Multipurpose CAEs should be DIFFERENT FROM universities.

The multipurpose CAEs should, compared to universities, have a greater vocational and industrial orientation in their courses, have a teaching emphasis in their courses, and provide for industry's needs by having a greater variety of attendance patterns and a greater range of specialised courses ('fringe courses' such as journalism and physiotherapy). The CAEs themselves should have more ties with industry, and CAE academic staff should have had more industrial experience.

The difference is thus considered to be that multipurpose CAEs should have greater vocational and industrial relevance.

(ii) Multipurpose CAEs should be EQUAL TO universities.

There is a feeling, especially in one subset of multipurpose CAEs, that the students entering CAEs should be the same as those entering universities; it would seem that it is believed that there should be equal aptitude, even though it is expected that entrants to CAEs should have a wider range of entry qualifications (including more with technician qualifications).

In addition, the courses should be equal (same high academic standards, same costs/EFTS, same staff/student ratio, same breadth), resulting in the production of graduates who should be similar to university graduates. And with similar graduates, there were similar needs for postgraduate courses.

Basically, it would seem that the institutions believe that multipurpose CAE undergraduate courses should be equal in standards to corresponding university undergraduate courses.

(2) With respect to the desired role of the multipurpose CAEs vis-a-vis the universities, i.e. the larger and smaller multipurpose CAEs, there seems to be at least two clusters of institutions.

(3) Differences between desired and actual state of affairs by institutions and staff.

(i) Multipurpose CAEs and their DIFFERENCES FROM universities.

In general, it is believed that there is a smaller degree of difference between multipurpose CAEs and universities than is desired by the institutions and staff on those variables which are seen as distinguishing these two sets of institutions.

It is thus considered by respondents that there are presently insufficient ties with industry, including insufficient industrial consulting interests.

It is considered by respondents that CAEs are presently insufficiently research-oriented, and that the type of research now conducted is not as applied as is desirable.

It would be hypothesized that pressures are present to change the situation from that presently perceived to that deemed desirable, and that pressure would be especially strong to increase the amount of research and industrial consulting being undertaken by staff in the larger multipurpose CAEs.

(ii) Multipurpose CAEs and their EQUALITY WITH universities.

There are differences between the two sets of institutions seen by institutions and staff with respect to students, to provision of post-graduate courses, and to costs.

It would therefore be hypothesized that there will be pressures to attempt to obtain 'better' students, to attempt to increase the provision of post-graduate courses, and to attempt to obtain more funding per EFTS.

(4) The "inner logic" of the multipurpose CAEs.

It would seem that there is a lack of acceptance that the inner logic of CAEs should be determined from outside the CAEs.

(5) Very few respondents from State bodies and CAEs wished to see the binary system continue in its present form. Three respondents were opposed to the continuation of the binary system; the remainder

wished to see a clearer distinction between university and non-university institutions.

(5.1) One suggested development was that CAEs and TAFE institutions should amalgamate to form community colleges. These institutions would be expected to be extremely responsive to the needs of industry and the community, i.e. their inner logic would be outside the institutions. The responses show that there would be opposition, especially from institutions which would see themselves as universities. However, it would be that a clear statement of the role of community colleges and implementation of a well-defined policy (which would demonstrate that no CAEs/community colleges would be transformed to universities) could provide the stimulus for a major change in attitudes.

(5.2) There needs to be a well-defined policy concerning post-graduate education in CAEs. Perhaps this could be assisted by clarifying movement of CAE UG1 graduates to universities. At present it would seem that any desire to be 'different from' in this respect is confounded by the desire to ensure that there are no barriers to more advanced studies for CAE UG1 graduates.

(6) The institutions (and staff) feel that there should be far less control of CAEs by State authorities.

These State bodies, together with the Commission on Advanced Education, have a poor record in terms of rationalization of resources, (e.g. Hermann, 1971; Samuel, 1977).

It could well be that rather than simply stating a preference for less control, they are stating a preference for a more adequate set of co-ordination procedures. This could, perhaps, involve a more positive attitude to the role of State co-ordinating authorities, such as undertaking industrial surveys.

This topic is treated in much more detail by Harman (1975).

(7) The difficulty in obtaining a clear differentiation between multipurpose CAEs and universities has also been found by Batt (1975) as part of the study of Regional CAEs. Thus Batt said: "It is not possible to say that the colleges' objectives are very distinctive from those of other institutions." (p.58). Batt seems to suggest that colleges are moving in one of two directions:

(i) Towards universities

"But the Project team heard a number of complaints that staff were university-oriented and wanted university conditions to prevail in the colleges" (p.61).

"Colleges of advanced education, therefore, are imbued with university standards" (p.64).

(ii) Towards community colleges

"Concerning the community college ideal, it is everywhere accepted that colleges should serve the community well". (p.64). Batt concluded by recommending that "... the Commission on Advanced Education (should) make another definitive statement on the purposes of the colleges in its next triennial report." (p.68). Presumably, recommendations concerning the role of CAEs will be the heart of those William's Committee deliberations concerning the post-school education system.

CHAPTER THREE

THE STAFF PERSPECTIVE

In the previous chapter the discussion concentrated upon the institutional perspective of the multipurpose CAE role with some comparison with staff opinion on specific issues. In this chapter the emphasis is upon the staff perspective. First, an attempt is made by the use of factor analysis to identify the most important ideologies held by CAE academic staff in respect of the institutional roles of the CAEs compared with the universities, and also what they consider should be the criteria for judging a 'good' vocational UGI course. The analysis to this point is based upon eighty-three statements contained in two questions - staff commenting upon each statement by use of a numerical scale. Freedom was given to staff, however, to develop their ideas in open-end questions based upon whether the CAEs should promote Ph.D. courses (question 2A of questionnaire) and whether the binary system should continue (question 2C). Answers to these questions were used alongside those derived from the factor analysis.

Second, an attempt was made with the aid of hierarchical group cluster analysis to find out the way the identified ideologies were shared between different groups of the CAE staff, each group being identified according to the consistency of viewpoint of its members; the chapter goes on to describe what were the viewpoints these groups shared.

Finally, a simulated merging of the groups was carried out, again with the aid of hierarchical group cluster analysis, to try to identify what was the most fundamental issue on the role and purpose of the CAEs on which the staff would show a difference of opinion.

3.1 THE IDENTIFICATION OF IDEOLOGIES

(1) 'What <u>should be</u>, and what <u>is</u>, the difference in roles between the CAEs and the universities?' (Question 1 of questionnaire).

Question One consisted of sixty-three statements concerning differences in roles between multipurpose CAEs and universities; the respondents were asked to express their opinion, first, as to what they thought the difference 'should be', and, then, as to what they thought it 'is', by using a scale ranging between one and seven. The statements were

a compilation of viewpoints concerning the nature and function of the two segments of higher education; some had been made by politicians, others had come from Commission reports, others were from articles, etc., and some were composed by the authors. Many statements were ambiguous; but, because they were often used as popular "catchcries" the authors made no attempt to impose their own clarification, and left them unchanged so that respondents could react directly.

The purpose of using a principal component factor analysis was to re-group the sixty-three items into simpler sets of factors that would have ideological consistency, and be feasible to measure and describe. A researcher might do this for himself; that is, he might select the items which reflect a common ideology then construct a single factor or item by combining the scores and averaging them. In doing this, however, he is imposing his own interpretation of what are the most important ideologies. In contrast, principal component factor analysis is a much more scientific method of achieving the same objective, for it allows the respondents to do their own regrouping by its searching their scoring of items for consistency of response in respect of alternative combinations. Thus, apart from the original selection of the sixty-three items, the selection of what the respondents consider the most important factors, criteria, or ideologies* on which to discuss the issues of the role of CAEs is completely independent of the researchers' own viewpoints. For this reason factor analysis is a very powerful tool of social science research and invaluable in this particular research project.

However, the selection by respondents of what are the most important factors is one thing; their opinion as to what <u>should be</u>, and what they consider <u>is</u>, the situation in respect of these factors, is another. The authors measured this opinion by working out the average staff score for each criterion - a simple matter of taking the items with a 0.5 or higher loading on the given criterion, combining their scores, and then averaging them.

The seven most important criteria handled this way are summarised in Table 3.1, together with their average scores. Together the seven criteria accounted for 40.38 percent of the variance in responses to Question One.

* *Though in a strict sense there is a variance in the meaning of these three words, in this context they shall be used interchangeably.*

For convenience, they have been given labels suggested by the items within them with the highest factor loadings. The criteria together with the scores staff have given them are described below.

A. The first criterion, applied industrial competency, explaining 12.45 percent of the variance, is easily the most important. The principal items grouped into this criterion propose that, compared with universities, the multipurpose CAEs should be more industry-oriented, more concerned with applied than pure research, and that they should have more ties with industry; that college courses should be more likely to produce graduates immediately effective upon graduation, more oriented to the application of knowledge, and that they should give more stress to applications in the final years; college staff should have more industrial experience than have university staff, and more current industrial consulting interests, and more contact with industry; compared with university students, both full-time and part-time students should be more able to gain industrial experience, and experience should be directly relevant to the employer. The very strong items out of these, with factor loadings of more than 0.68, were those that linked the colleges to industry, required staff to have industrial experience and industrial consulting experience, and wanted courses to make graduates immediately effective on the job upon graduation.

The support for the criterion was tested by adding together the scores for all the items that have been listed above. When averaged the possible score lay between one and seven; below four was an acceptance, above four, a rejection. The actual average was 2.59, so the applied industrial competence criterion is very strongly supported, both because of its average scale score, and because of its high factor loading. However, the degree to which college staff think the criterion actually applies, that is, their average score on what they think the situation is, (as distinct from what they think it should be) is 3.17 (Table 3.2), a highly significant difference (at 0.01 level). Consequently, not only do college staff think that multipurpose CAEs and universities should be different in respect of applied industrial competence, but they feel that the degree of this differentiation should be greater than they now believe it to be.

The remaining criteria do not rank as important to staff generally as that of applied industrial competence, but, nevertheless, they are clearly identifiable in the analysis, and accordingly, must be important to certain groups within the college staff.

B. The next most important criterion, student access, has a 5.64 percent share of the variance. The items within it are that, compared with universities, multipurpose CAEs should be more likely to admit students on the basis of a technician/sub-professional course, as an alternative to matriculation, that they should have less rigid entry requirements, have more specific subject areas (like journalism, physiotherapy, etc.), have more higher-technician courses, more sandwich courses, and more external courses. The net effect of these beliefs would be to lower barriers to access to higher education caused by formal academic background, location with respect of the institution, work-times, and restricted range of course offerings.

This criterion was also strongly supported with an average scale score of 2.71, and again, there was a highly significant difference with the score of how staff actually saw the situation, 3.09. Accordingly, one can conclude that not only do CAE staff want a differentiation between universities and multipurpose CAEs in respect of student access, but that they believe that the extent of this differentiation should be increased.

C. The third criterion, intellectual scholarship, explains 4.76 percent of the variance. Its items are that, compared with the multipurpose CAEs, the universities should be more oriented to intellectual scholarship, more inclined to stress the liberal tradition of education, more oriented to academic standards, and more oriented to general rather than specific occupational preparation, and more radical socially. Though the criterion is couched in terms of the universities rather than the CAEs, a score below four still denotes acceptance, above, rejection. The 'should be' score was 3.5, so though there was a general acceptance of the view that it should be more the function of universities than colleges to concentrate upon intellectual scholarship, the fact that it was very close to neutral showed that it is heavily qualified, and, possibly, by some respondents, or groups of respondents, actually denied. Furthermore, the score of what 'is' the actual situation, 3.37, has no statistically significant difference with respect to 'should be' score of 3.5, so not only were the college staff reluctant to allow that there should be a difference between institutions on this criterion, they were just as reluctant to acknowledge that there was one.

D. The fourth criterion, innovative constraints, explains 4.74 percent of the variance. Its items are that, compared with universities, multipurpose CAEs should be less controlled by State authorities, less authoritarian, and more innovative. In contrast, universities should

Table 3.1

IDEOLOGIES

USED IN EVALUATION OF INSTITUTIONAL ROLES

	Criterion *	Percent of Explained Variance	Average Score * "Should be"	General Attitude of Staff *
A	Applied Industrial Competency	12.45	2.59	Strong Support
B	Student Access	5.64	2.71	Strong Support
C	Intellectual Scholarship	4.76	3.5	Weak support, close to neutral
D	Innovative Constraints	4.74	3.52	Weak support, close to neutral
E	Teaching v. Research (Teaching Orientation)	4.55	3.13	Moderate support
F	Professionalisation (Traditional Orientation)	4.52	3.49	Weak support, close to neutral
G	Student Radicalism	3.72	4.38	Very weak
		40.38		

* *This table is only a summary of the text. The understanding of the table requires a reading of the text.*

Table 3.2

IDEOLOGIES (Continued)

MEANS, AND DIFFERENCE BETWEEN MEANS

Criterion	Opinion in Respect of Institutional Role			
(Code on Table 4.1)	What it should be	What it is	Difference	Significance (t test)
A	2.59	3.17	-0.58	**
B	2.71	3.09	-0.38	**
C	3.50	3.37	0.13	NS
D	3.52	4.48	-0.96	**
E	3.13	2.16	0.97	**
F	3.49	4.11	-0.62	**
G	4.38	5.24	-0.86	**

** *Significant at 0.01 level*

provide courses that are less narrowly based in respect of prospective job functions, and be more oriented to widening horizons, than those that multipurpose CAEs should provide. The average support for this criterion was only slight, being 3.52, which is fairly close to a neutral 4. However, the interesting point in respect of the criterion is that college staff measured the actual situation as 4.48, so that though there is a tendency to favour no differentiation, or only a weak one at the most, there is a general view that the differentiation that does exist is the reverse of what it should be, and so, accordingly, there would be pressure in support of the criterion.

E. The fifth criterion, teaching versus research, explained 4.55 percent of the variance. Its items were fairly clear-cut, indicating the belief that multipurpose CAEs should be more teaching, and less research oriented than are universities, that they should have less postgraduate courses than universities, and that CAE staff need not have as many published research papers as university staff. The acceptance of this viewpoint was moderate, 3.13; that is, stronger than the criteria of differentiation in respect of innovative constraints, and intellectual scholarship, but certainly not as strong as those of applied industrial competence, and student access. However, in spite of the support for a moderate differentiation, the bulk of the staff show with a score of 2.16 for is that they believe the differentiation has currently gone too far, and so one can expect strong pressure for an increase in attention to research at the expense of teaching.

F. The sixth criterion, professionalisation, explains 4.52 percent of the variance. The items listed here are that, compared with universities, multipurpose CAEs should provide courses more oriented to developing professional attitudes, whereas the concentration of the universities should be more on courses oriented to individual needs of students, and inclined towards educating graduates to changing roles in the work situation. Whereas the colleges were being asked to take a 'traditional' viewpoint of professionalisation, the universities were envisaged as having a more 'progressive' and dynamic approach to the changing world. In fact, this criterion had only weak support, 3.49, and, it was apparently believed, from the score of 4.11 for is, that very little differentiation existed.

G. The seventh and final criterion used in the analysis, student radicalism, with 3.72 percent explained of the variance, speaks for itself. The two items are that multipurpose CAE students, full-time and part-time, should be more radical than university students. The average score of 4.38 shows, however, that college staff would like their students to be slightly less, but almost the same, as university students in this respect. In point of fact, though, college staff with a score of 5.24 of the situation as it is, show that they believe college students are generally too conservative compared with university students.

(2) A Good UGI Vocational Course

Question Nine, which asked staff to evaluate the importance of criteria in making a 'good' UGI vocational course, was also studied with principal component factor analysis. The criteria used below for this analysis explained 31.3 percent of the variance.

W. Again, the most important criterion was applied industrial competence, explaining 9.78 percent of the variance. The items with over a 0.5 factor loading on this criterion were that the course should teach specific technical and professional skills, make the graduate immediately valuable to the employer, train persons to learn from on-the-job experience, earn a reputation amongst employers for success in screening out or excluding incompetent persons, and require teaching staff to have relevant industrial experience. This criterion had a very strong acceptance, having a score of 2.37.

X. Three other criteria were also strong. The second, student development criterion, explained 8.95 percent of the variance. Items emphasised were that a 'good' UGI vocational course includes general (perspective-widening) subjects on equal status with professional training ones (but not necessarily equal time), bases selection of new students on student motivation and interest rather than academic background, allows the student to proceed at his own pace, and encourages students to use libraries and other resources. Again this criterion was strongly supported, average score being 2.59.

Y. The third criterion, industry and manpower-based organisation, explained 6.47 percent of the variance. It required a 'good' UGI vocational course to use a sandwich type program, make on-the-job experience mandatory during instruction, and be restricted in number of places by manpower needs. This criterion had only a weak acceptance, the score being 3.48.

Z. The fourth and final criterion used in the analysis, university-equivalent staffing criterion, explained 6.3 percent of variance. It wanted teaching staff to have relevant research experience, and to have high academic qualifications. It had a moderate acceptance of 3.18.

(3) Should Multipurpose CAEs Offer Ph.D. Courses?

The role perspectives of college staff were also examined by means of straight yes/no questions, followed by space for elaboration. In Question Two A, staff were asked whether multipurpose CAEs should offer Ph.D. courses. The reason for their answer was requested. In addition, staff were asked to state what differences a college Ph.D. should have from a university one, given that they favoured its institution.

College staff were almost evenly divided upon this question, 50.2 percent in favour, and 49.8 percent against. The ratio between yes and no varied considerably amongst sub-groups of staff identified on other criteria, and this variation shall be examined in detail later. Here, it is sufficient to give a general description of the reasons given for favouring or not favouring the Ph.D.

Those who favoured the institution of the Ph.D. frequently gave the following reasons: that Australia lacked a high level research degree that was problem based, industrially located, and available to workers outside educational institutions; that a Ph.D. course would assist with staff and student development; extend the 'forefront' of technology; benefit the development of undergraduate courses; and provide 'parity' with universities. Those who expressed these views generally saw the Ph.D. program as being applied for problem solving in industry and government, as having a strong course-work component, and that it would be available part-time and could be extra-mural. Some would require it to be post-work experience.

Amongst those who did not favour the institution of the Ph.D. were some who objected to it in principle, that it was too abstract, that it was destined to train academic staff, that it would cause a dangerous reorientation of priorities away from undergraduate programs, that there were too many Ph.D.s already, and that its institution in colleges would be an unnecessary duplication and wastage of resources, that research was not the function of colleges, that the Ph.D. was an elitist degree that should be provided by a few elitist universities. Others did not have so

much an objection in principle, but one is respect of resources; they would delay the institution of the Ph.D. because multipurpose colleges did not have the staff to achieve an adequate standard, and that other needs were greater.

It must not be thought that being against the Ph.D. meant being against postgraduate courses. In fact, many who rejected the Ph.D. did so because they believed in the efficacy and potentiality of course work master level programs in meeting the applied industrial competency criterion. A majority of staff would be in favour of the provision of postgraduate courses.

Table 3.3

IDEOLOGIES

CONCERNING DESIRABLE FEATURES OF A 'GOOD' UGI VOCATIONAL COURSE

Ideology *	Percent of Explained Variance	Average Score*	General Attitudes of Staff*
W Applied Industrial Competency	9.78	2.37	Strong support
X Student Development	8.95	2.59	Strong support
Y Industry and Manpower-Based Organization	6.47	3.48	Weak support
Z University-Equivalent Staffing	6.3	3.18	Moderate support
	31.50		

* *This table is only a summary of the text. The understanding of the table requires a reading of the text.*

(4) Do you favour the continuation of the binary system?

When asked for their view as to the continuation of the present binary system (the State College of Victoria being included in the advanced education segment), an overwhelming 80.2 percent were in favour. However, it was clear from the comments that many were only in favour if the multi-purpose CAEs achieve parity with the universities. There was a strong feeling that the two segments lacked parity; many believed that the community held the universities in greater esteem, others that the colleges needed equal if not positive discrimination in regard to resources. On the other hand, there was also a very strong feeling that the colleges were trying too hard to copy the universities, and that the distinctive features of the two segments would be lost. In this respect, many wanted a strong dichotomy of roles for the two segments; the colleges to be applied and vocational, the universities to be liberal, 'pure', and research minded. Some felt that the universities should be divested of all vocational undergraduate courses, some giving the universities an elitist role with a concentration upon higher degrees and research, but most seeming to want the university population severely restricted and most vocational undergraduate work going through the colleges.

Many of those who said they favoured the binary system, nevertheless, saw as much differentiation within as between the two segments, and it was clear they would like to see a differentiation made among CAEs, with the principal multipurpose colleges having the status of technological universities.

Amongst those who favoured the discontinuance of the binary system there was a general feeling that institutions should not have their roles constrained by stereotyping, but that each institution should seek its own level of merit through its own initiative - some used the American system as an example, though perhaps it is a poor illustration of what these persons wanted. However, one person favoured the discontinuance for the reason that he believed the colleges of advanced education served no useful function that could not be achieved through a more rational use of resources between universities and technical colleges - he would abolish the CAEs in their present form.

3.2 GROUP-HELD IDEOLOGIES (HIERARCHICAL GROUP ANALYSIS)

It is obvious from the nature of the criteria just described and from the scores given that college staff would be very heterogeneous in respect of role perspectives. Accordingly, a hierarchical group cluster analysis was made of the sample's scoring of first, third, and fourth criteria identified in the factor analysis of a 'good UGI vocational course'. The objective was to see whether cluster analysis would identify groups of staff according to a common pattern of responding to the criteria; that is whether it would identify groups of staff that had common viewpoints upon what should be stressed in a 'good UGI vocational course'. The set of criteria concerning the 'good UGI vocational course' (rather than that concerning the differential role of the multipurpose CAEs and the universities) was selected because it was felt the grouping would be sounder if it was based upon the more specific question; the other question concerning the relative institutional roles was vaguer and more nebulous. The danger of the approach was that the groups derived from viewpoints as to what makes a good vocational UGI course might lose their intra-group consistency when their viewpoints concerning the relative institutional roles were analysed. However, the following statistics show that the groups were not only very sound upon the former question, but maintained sufficient intra-group consistency to keep their viability for analysing group opinion upon other criteria.

Seven 'strong' groups were selected by means of the cluster analysis. The strength of the grouping was then tested by a multiple discriminate analysis of the responses of the seven groups upon all four criteria of a 'good UGI vocational course'. R square for the run was 0.93, an exceptionally high figure which gave utmost confidence in the grouping. Multiple discriminate analysis with the seven groups using the criteria of 'what should be the difference in roles of the multipurpose CAEs and universities' gave an R square of 0.47, showing a drop in intra-group consistency but still leaving the groups viable. Not unexpectedly, there was less intra-group consistency when the same criteria were used for a multiple discriminate analysis of 'what the difference is - at the moment'. The R square was 0.28, but the authors felt that this was still high enough for the validity of the analysis which follows.

In the sections which follow the groups are first described in respect of their criteria scores and then by statements they have written on their questionnaire - in order to elicit the strongest group opinions. Tables 3.3 - 3.6 give the quantitative data on which most of the following analysis is based.

(1) Group One

In respect of the UGI course, this group supports the university staffing criterion very strongly, much more than any other group; it strongly supports the applied industrial objectives criterion, supports the student-development criterion, and less strongly the industrially manpower-based organisation criterion. Quite obviously this group wants a staff of university standard, but with a distinct industrially-oriented philosophy towards degree level work.

In respect of differentiation between universities and multipurpose CAEs, Group One, again, strongly supports the applied industrial competence orientation, gives fairly strong support to the notion that CAEs should have a greater diversity of access for students, but only weakly supports the notions that multipurpose CAEs should be more teaching than research oriented than universities, that the universities should be the more orientated to intellectual scholarship, and that the CAEs should concentrate more upon achieving a 'traditional' as opposed to a 'progressive' professionalisation of students to their careers than do universities.

In fact, in reference to the current situation, Group One felt that the differentiation of the teaching:research ratio between the multi-purpose CAEs and the universities had already proceeded too far and should be substantially narrowed. On the other hand, it felt that the constraints over innovation in the CAEs should be eased so they were slightly less than in the universities; currently, it saw them as being slightly more. It felt that there should be much more differentiation between multi-purpose CAEs and the universities in respect of applied industrial competence criterion and diversification of student access and admission.

In respect of the institution of a Ph.D. program in the CAEs, it was 69.2 percent in favour and 30.8 percent against; in respect of the continuation of the binary system, it was 76.0 percent in favour and 24.0 percent against.

Those who favoured the introduction of the Ph.D. saw its advantage in terms of staff and student development, the extension of the 'fore-front of technology', and the development of applied research for the beneficial effects upon other courses. They felt the Ph.D. should have a distinct character with more emphasis upon being industrially based, course-work oriented with field work, and Ph.D.s trained to work in industry and the civil service. Nevertheless, some of those who favoured the Ph.D. shared the view of some who were against it - that its implementation would be difficult to achieve with the present standard of staff employed. Some were against the Ph.D. because they were against its

proliferation, and felt that its establishment in the CAEs would be an expensive duplication of what is done in the universities. Others stated that they had very little respect for the Ph.D. anyway, saying it was too specialised for present needs and should be restrained both in universities and CAEs.

Among those who favoured the continuation of the binary system there was a fairly general conception of a dichotomy of function between the universities and the CAEs - the former concentrating more upon the 'pure' and the theoretical, the latter upon the applied. However, there were some who felt that the typification should be abandonned and institutions and courses be judged upon their own merits.

Among general comments, there was no suggestion of contentment with the present situation, and quite some tone of pessimism. Some recognised a public differentiation at a hierarchical rather than a functional level, and felt that this could never be overcome; that is, that the Wark ideals could not be achieved unless adequate resources were given to overcome this hierarchical bias. Some openly admitted the poor standard of staff and quality of courses in the CAEs. Others resented being identified with the former teacher colleges, maintaining that manual arts and domestic science were not higher education disciplines. Some identified a process where the objectives of differentiation were being defeated by resources going to those institutions and courses which most successfully could 'ape' the universities. Some staff felt, therefore, it was better to abolish the nomenclature of universities and CAEs, as the names had hierarchical connotations in the public mind and caused some CAEs to emulate a university model. Better, they felt, for all institutions, universities and CAEs, to compete as institutions, and to carry no labels that implied a certain model of development.

(2) Group Two

In respect of the UGI course, this group, though considering the applied industrial competence criterion desirable, is markedly less keen on it than any of the remaining groups, other than Groups Six and Seven. It has approximately the same level of enthusiasm for the other three criteria, that is, considering them all desirable but certainly not highly desirable or essential.

Similarly, in respect of the role between the universities and the multipurpose CAEs, this group always remains in the mainstream, never taking a markedly divergent opinion upon any of the criteria other than showing less enthusiasm for the industrial differentiation; that is, it feels that there should be differentiation between the universities and multipurpose CAEs upon the question of applied industrial competency and student access criteria, but only moderate differentiation upon others. Like most groups it tends to share the view that though multipurpose CAEs should have slightly more emphasis upon teaching relative to research than universities, this differentiation has already gone too far. But on the whole, this group seems relatively happy in respect of the relative roles of the two sets of institutions; its interpretation of what the differentiation should be, and what it thinks it is is fairly much the same.

In respect of the institution of a Ph.D. program 61.8 percent of this group is against it, and only 38.2 percent for. In respect of the continuation of the binary system 76.4 percent is for, 23.6 percent against.

Not unexpectedly from the statistics above, this group is rather explicit in respect of its objections to the establishment of the Ph.D. program. Some of the objections reflected the lack of a suitable resource base in the CAEs, staff not yet good enough, etc. Other objections recognised a need for an elitism in the system with the universities at the pinnacle; for example, such expressions as 'better to have a few peaks of excellence on the academic horizons than a multitude of mole-hills!!', and another, 'the Ph.D. should be a pinnacle of achievement to be obtained in the best intellectual company'.

But other objectors refuted the Ph.D. because of its inappropriateness, that it is too abstract, and that it is structured towards an academic career. Finally there was another sub-group which though it did not reject the concept of the Ph.D. placed it at a very low level of priority; it felt that emphasis and resources should be vocationally oriented and be for the welfare of the majority of students, not just a select few. It felt that any emphasis upon the Ph.D. would distort this purpose.

Those who favoured the Ph.D., favoured it for much the same reasons as those in Group One. They also visualised it in much the same way: as being applied, being industrially as well as educationally located, possibly post-industrial experience, and containing course work.

Table 3.4

GROUP CRITERION OPINION
(MEAN GROUP SCORES)

(1) 'What should be the difference'

CRITERION (Code on Table 3.1)	GROUP						
	1	2	3	4	5	6	7
A	2.35	2.82	2.45	2.19	2.47	3.11	3.68
B	2.74	2.91	2.56	2.35	2.60	3.00	3.33
C	3.68	3.42	3.58	3.50	2.90	3.68	3.62
D	3.32	3.66	3.61	3.42	3.89	2.88	3.17
E	3.38	3.04	3.09	2.99	2.66	3.45	4.32
F	3.39	3.62	3.54	2.93	4.03	3.30	3.71
G	4.29	4.29	4.59	4.56	4.39	3.75	4.07
(Code on Table 3.2	1	2	3	4	5	6	7
W	2.08	2.88	1.88	1.83	1.85	3.90	3.91
X	2.59	2.79	2.47	2.38	2.87	2.35	2.61
Y	3.17	3.47	3.83	2.25	4.38	3.20	5.33
Z	1.86	3.36	3.02	3.70	4.50	4.45	2.29

(2) 'What is the difference'

	1	2	3	4	5	6	7
A	2.95	3.20	3.12	3.47	3.28	3.12	3.18
B	3.18	2.96	3.06	3.42	2.85	3.00	3.41
C	3.60	3.21	3.44	3.53	2.62	4.06	3.23
D	4.39	4.59	4.41	4.38	4.45	4.72	4.80
E	2.18	2.15	2.15	2.37	1.69	2.43	2.00
F	4.02	3.99	4.19	4.24	3.97	4.50	4.05
G	5.43	5.09	5.19	5.08	5.46	5.60	5.72

Table 3.5

GROUP CRITERION OPINION (CONTINUED)

(DIFFERENCE BETWEEN MEANS)

(3) Mean score of 'What should be the difference' less mean score of 'What is the difference'

CRITERION (Code on Table 3.1)	GROUP						
	1	2	3	4	5	6	7
A	-0.60	-0.38	-0.67	-1.28*	-0.81	0.00	0.51
B	-0.43	-0.05	-0.50	-1.07*	-0.24	0.00	-0.07
C	0.08	0.21	0.14	-0.03	0.28	-0.38	0.39*
D	-1.07	-0.93	-0.81	-0.96	-0.55	-1.84*	-1.63
E	1.20	0.89	0.94	0.62	0.96	1.03	2.32*
F	-0.63	-0.37	-0.65	-1.31*	0.05	-1.20	-0.33
G	-1.15	-0.80	-0.60	-0.52	-1.08	-1.85*	-1.65

* *Group with the greatest difference between means on the given criterion. Average difference between means for all staff was 0.71.*

In respect of the difference of roles between multipurpose CAEs and universities, this group was noticeably concerned about the public image held of the CAEs - it feared the image was of a second-rate institution. As with Group One, some individuals suggested that this be overcome by the 'theoretical and applied' dichotomising of the two types. Some wanted to go further and give the CAEs status as technological universities. Quite a noticeable sub-group wished the universities to concentrate upon post-graduate work and leave the undergraduate level to the colleges.

Those who wished to see the binary system abolished could be typified by the following statement 'Each institution should determine its own objectives and then earn respect on the basis of its performance, that is, the name of an institution (University or CAE) should not automatically define its role'.

Some respondents felt that the original concept of the CAEs had failed, but on the whole the feeling of pessimism did not seem as strong as it had in Group One.

The difference between Group One and Group Two would seem to be that the first is looking for greater differentiation between the universities and colleges, but, perhaps inconsistently, greater acceptance of colleges on university standard of excellence, namely, academic qualifications and research. Group Two, in contrast, while wanting differentiation, does not want it to the same degree; it is also less keen on evaluating institutional performance of staffing on university criteria, noticeably rejecting, for example, the notion of competing with the university Ph.D. program. Though it is concerned about the public image of the colleges, many of its members have a hierarchical notion of higher education, acknowledging that post-graduate work should be the preserve of the universities.

It is noticeable in the comparison of the scoring of the two groups that Group One not only tends to want greater differentiation than Group Two, but is also less satisfied with the present situation. On all criteria, except intellectual scholarship, its difference between 'should be' and 'is' scores is greater than those of Group Two.

Table 3.6

ATTITUDE TO Ph.D. COURSES
AND BINARY SYSTEM
(PERCENTAGES)

A. 'Should multipurpose CAEs offer Ph.D. courses?'

ANSWER	GROUP							TOTAL STAFF
	1	2	3	4	5	6	7	
YES	69.2	38.2	66.7	40.9	23.1	30.0	71.4	50.2
NO	30.8	61.8	33.3	59.1	76.9	70.0	28.6	49.8

B. 'Do you favour the continuation of the binary system?'

ANSWER	GROUP							TOTAL STAFF
	1	2	3	4	5	6	7	
YES	76.0	76.4	84.0	87.0	84.6	90.0	50.0	80.2
NO	24.0	23.6	16.0	13.0	15.4	10.0	50.0	19.8

(3) Group Three

Like Group Two, Group Three tended to be one of the more placid groups; only on two occasions out of seven did the difference in means between 'should be' and 'is' exceed the group-criteria average of 0.71. Nevertheless, this group wanted a substantially greater differentiation upon the applied industrial competency criterion both in respect of the good UGI vocational course and institutional roles than did Group Two and even Group One (in respect of the former). It also wanted greater differentiation than either of these two groups in respect of students access. It differs further from Group One in only moderately favouring the university staffing criterion.

66.7 percent of this group was in favour of a Ph.D. program. Reasons given include the need to fill a gap in education, namely, the lack of an applied level research degree giving status in professions and oriented to business and government, and the need for in-depth study of disciplines for the ultimate development of lower level study. Most descriptions of the proposed Ph.D. agree with those of others who have expressed their support, namely, that it should be problem-centred, applied, possibly post-work experience, and available for part-time study.

Those opposed to the Ph.D. were less explicit than other groups. Some were only prepared to favour the master degree as the highest level, and that this should be strictly 'applied' in its approach. Familiar objections arose, namely, lack of facilities, duplication, and waste of resources.

One advocate of the Ph.D. felt that the 'nature of undergraduate courses should effectively ensure a difference in Ph.D.s between the two institutions'.

This group was noticeably more dedicated to the continuation of the binary system than the first two groups, 84.0 percent were in favour. consequently, it is not surprising to find a pronounced concern for what one respondent called 'universification', namely the attempt by colleges to emulate universities; he probably spoke for a number in this group when he also remarked 'Why should the CAEs have to lower their standards to those of the universities'. As a specific example of 'competing' with universities to the detriment of college objectives, one respondent mentioned the lengthening of some courses to four years in order to

obtain degree status comparable with universities. On three occasions, respondents specifically mentioned and criticised a preference given to Ph.D.s in appointment and promotion.

This is a competitively more aggressive group than Group Two, seeking to compete at all educational levels. On the other hand, it is far more sensitive than Group One to the dangers of loss of distinctive identity by seeking 'equality' on the basis of university staffing and course standards.

(4) Group Four

Like Group Three, this group shows an intense devotion to the binary concept, 87.0 percent in favour. Of all groups, it is the most strongly convinced of the need for industrial association. It shares equal first place with Group Five in application of the applied industrial competency criterion to a 'good' UGI vocational course, and first place in applying the criterion to the differential institutional roles. It has far stronger views than any other group that the UGI course should be organised on industrial lines, sandwich, require on-the-job experience, and be restricted by manpower requirements. It also has easily the strongest feelings that colleges should pursue a traditional professionalisation and universities a 'progressive' one, and it also has the strongest feelings in applying the student access criterion. Not unexpectedly, this group is not placid about the present situation; four times out of seven it exceeded the groups-criteria average difference of means between 'should be' and 'is' of 0.71. It also showed the greatest level of dissatisfaction of any group on three of these occasions; namely, in respect of the degree of differentiation upon the applied industrial competence criterion, the traditional professionalisation of students, and student access.

The majority, 59.1 percent, of this group were against the establishment of a Ph.D. program. The nature of the responses for and against the establishment being the same as in previous groups, support being mainly on the basis of parity of status with universities, that the degree should be applied and practical, and with an industrial research orientation. Those who opposed it did so because they felt its main purpose is to staff the universities, that it was too 'academic',

too specialised, and that there were already too many Ph.D.s for the market; that its establishment would take away emphasis from teaching, and that though post-graduate, vocationally oriented, work might be implemented it should not involve the Ph.D.

This group had a much more distinctive identity than the previous three groups. In at least nine out of the twenty-five cases, open ended questions were used to explicitly protest about the 'universification' of the college, the 'aping', the duplicating, the copying of universities by the colleges. In a similar vein, others said there was too much emphasis being placed upon academic qualifications and too little upon work experience in the recruitment of teaching staff. The strong feelings of this group are probably well expressed in the following remarks of one of the members.

> 'It has been asserted that CAEs are equal to but different from Universities. The courses offered by the former are more vocationally oriented than those given by the Universities.
>
> On the one hand, this catchcry is embraced by the CAEs - but on the other hand, they seem to be mesmerized by the urge to recruit staff with the highest possible qualifications, without regard for industrial experience'.

(5) Group Five

This group was the most opposed to the introduction of the Ph.D. program, 76.9 percent against, and one of the most dedicated to the binary system, 84.6 percent in favour. In many ways, its opinions strongly resemble those of Group Four. It has equally as strong views, for example, in the application of the applied industrial competence criterion to a 'good' UGI vocational course, while it is not too far behind in its application of the same criterion and that of student access to the differential institutional roles. Moreover, it favours the application of the university staffing criterion even less than does Group Four, and of all groups it has the strongest preference for the teaching over research orientation (which is in accordance with its opposition to the Ph.D.).

In contrast with Group Four's strong preference for the industrial organisation of courses, this group is slightly opposed to the notion. It is also far less concerned over constraints on innovation than other groups, while it would be the most in favour of the intellectual scholarship criterion being left to the universities. The impression one might gain from these opinions is that this group is teaching oriented for very positive reasons, it looks to the educational institution more than job location for the source of industrial competence; the college staff member is to be a 'teacher', not a 'researcher', nor an 'industrial organiser'.

Some members of this group desired a hierarchical structuring with the universities catering for the brightest students and giving stress to postgraduate work, but with the numbers in the universities being severely restricted and the majority going to the colleges. However, one wrote specifically against 'elitism'. Like Group Four, the group was generally concerned about the 'aping' of the universities.

It is of interest that one person who rejected the binary system did so not on the grounds of parity, but because he would like to see the re-establishment of the former post-school system of universities and technical colleges.

(6) Group Six

Although all previous groups had shown moderate to very strong support for the Wark tradition and the application of the applied industrial competence criterion, Groups Six and Seven showed much weaker support. Group Six might be said to be the 'radical' group. In respect of the 'good' UGI vocational course it gave the strongest support to the student development criterion, modest support to industrial-based organisation, and indifference bordering on opposition to the university staffing and applied industrial competence criterion.

In respect of the differential institutional roles, though it shows the strongest preference of any group for the continuation of the binary system, 90 percent, it is obvious from the description above that it views the system from a different perspective to that of previous groups.

It is only moderately in favour of the Wark tradition, and believes it has already gone far enough (Group Seven thinks it has gone too far); like most groups it is fairly strongly in favour of diversified student access, and has the strongest views concerning the freeing of constraints upon innovations, student radicalism, and is the one most against copying the intellectual scholarship of the universities.

Group Six would seem to be the most discontented group; five times out of the seven the groups-criteria average exceeds 0.71, and on three of these occasions, the criterion of innovative constraints, trends towards university standards and intellectual scholarship, and lack of student radicalism, it shows the most discontent. In spite of its radicalism, however, this group is rather doctrinaire; it feels, for example, that the colleges need to give more attention to the professionalisation of the student. Perhaps its interpretation is different to that used in this paper - towards a radical professionalism, as contrasted to a professionalism of personal responsibility based on technical competence.

In the open-ended questions, this group tended to reinforce the impressions gained above; there were explicit statements of the desire for more autonomy, and for the relaxation of industrial control over institutional thinking.

Rejection of the Ph.D. program was fairly strong, 70 percent being against. However, again, the rejection of the Ph.D. did not imply rejection of the postgraduate level work; the introduction of the master degree, for example, was specifically mentioned.

(7) Group Seven

This rather small group could be termed the university academic aspirants. It was only 50 percent in favour of the continuation of the binary system, and was 71.4 percent in favour of the establishment of a Ph.D. program; these were the most extreme group scores.

In respect of the 'good' UGI vocational course, it was indifferent to the applied industrial competence criterion, strongly in favour of student development, very hostile to the industrial organisation of

courses, and strongly in favour (second only to Group One) in the university staffing criterion.

In respect of the differential institutional roles, the average score of this group was very close to four on all criteria; that is, it saw the roles of the multipurpose CAEs as needing to be the same as the universities. In seeing the situation as it is now, this group felt that the Wark differentiation should be reversed, that innovative constraints were too great, and that the bias to teaching was far too great (the score of 2.32 on this criterion was the highest difference of means for any cell in the groups-criteria matrix).

The explicit remarks of this group were what one might expect. The general themes, though not true for all, were the breakdown of the binary categorisation, the introduction of the Ph.D. of a similar nature but with more flexibility than to the university model, and more resources to colleges.

Summary

For simple identification a summary of group opinion is given below:

Group	Ultimate Objective	Key Identities
1	Wark dichotomy	'Equal but Different', compete at all levels, using university criterion.
2	Wark semi-dichotomy	'Not so different, but not so equal', more hierarchical, compete only at undergraduate and lower level postgraduate.
3	Wark dichotomy	'Equal, but very different', compete at all levels, not using university criterion.
4	Wark dichotomy	'Not so equal, but very different', compete only at undergraduate and lower level post-graduate. Strong industrial association.
5	Wark dichotomy	'Not so equal, but very different', compete only at undergraduate level, opposition to research, concern for teaching.
6	Non-Wark dichotomy	Radical and innovative, compete at under-graduate and lower level postgraduate.
7	Non-dichotomous	Academic aspirants.

3.3 POTENTIAL GROUP ALLIANCES

It is of interest to discover what opinions each group holds most strongly, and which opinions it might be prepared to modify if it had to form an alliance in order to foster its main concern. Taking a lot of licence with the technique of hierarchical group cluster analysis, probably enough to cause horror to a statistician, it is possible to use the collapsing of groups into new combinations as proxies for most likely alliances. The principle upon which the cluster analysis takes place is that at each successive step two groups will be combined, the two groups being those with the greatest similarity in pattern of scores, and which when combined would leave a greater inter-group differentiation than would have any other possible combination of two groups. The maximum number of groups the analysis begins with is the number of cases; the minimum number of groups it finishes with is two. In the analysis of groups described so far the cluster analysis had been stopped with seven groups remaining, this point being selected because the next combination leaving six groups caused a large jump in the statistic called the objective function. A large jump indicates that the last two groups combined had considerable dissimilarities in scoring - in this analysis up to seven groups, there had been no abrupt rise in the objective function.

The fact that the objective function now jumps abruptly for each collapsing of groups after seven has been reached is one reason for being wary as to the following alliances taking place. Another reason is that the cluster analysis is only based upon three criteria of a 'good' UGI vocational course, not on all the criteria used in the previous discussions. Nevertheless, as one can see there is some logic to be found in the potential alliances suggested by the following completion of the cluster analysis.

STAGE	GROUPS						
Present stage	1	2	3	4	5	6	7
Next step	1	2	3	4-5		6	7
Next step	1	2	3	4-5		6-7	
Next step	1-3	2		4-5		6-7	
Next step	1-3	2-6-7		4-5			
Final step	1-3-4-5	2-6-7					

In this analysis, alliances took the following sequence: First, an alliance of the heirarchical dichotomous, second, an alliance of Non-Wark parties, third, of the non-hierarchical Wark dichotomous, fourth, of all semi- and non-dichotomous, then, finally of all Wark dichotomous. Thus, it would seem from the analysis that the most essential element on which academic staff would divide is on the Wark style dichotomy. This conclusion is supported by the importance one has discovered of the applied industrial competence criterion. Questions of equality, institutional or extra-mural location, student access, authoritarianism, innovation, teaching or research, though important, are sub-ordinate.

CHAPTER FOUR

THE GROUP PROFILES AND GROUP INFLUENCE

In this chapter an attempt is made to 'recognise' the seven groups discussed in the last chapter in order to see which might be the most influential and successful in advancing its viewpoint now and in the near future. Accordingly, an analysis of group profiles follows which looks specifically at this question. In the second part of the chapter a check of some of the main conclusions reached in the first part is made with the second survey data to see to what degree the reader should be wary of any bias having entered the study through unrepresentativeness in the responses.

Table 4.1C shows that Group 5 (23.2 percent at or above principal lecturer rank) has the highest level of most senior rank. However, it has only 6.6 percent of the first survey respondents and has an even smaller share of those recruited in the last five years (Section A) so it might be effectively discounted as an influential group. Next in order of most senior rank are Groups 1 and 2, the former having a higher loading towards head of school level, but the latter compensating by having the largest share of respondents (29.95 percent, compared with Group 1, 14.72 percent). It could well be, therefore, that amongst the respondents Group 2 is already the most influential of the seven groups.

But, whether or not Group 2 is the most influential now, it would seem to be the case that it will be the most influential in the future. Not only is Group 2 now the largest, but Section A shows that it is the fastest growing of all seven groups. The only group that could challenge it in size and rate of growth is Group 3, with 27.41 percent share of respondents and second in recent expansion. This group, though, has neither the rank (only 11.7 percent, compared with 14.4 percent of all respondents, is at or above principal lecturer rank), nor the potential in the future (50.9 percent, compared with 43.2 percent of all respondents, is already over 40 years of age) to challenge Group 2. The second group that might challenge Group 2, that is, Group 1, one has already noted has a marginally higher level of most senior rank than Group 2, while it also has to its advantage the highest level of academic qualifications (32.1 percent have Ph.D.s, and another 25.0 percent masters, while Group 2, the next most highly qualified, has only 20.3 percent and 22.0, respectively). Furthermore, Group 1 has a relatively high level of industrial experience, 58.62 percent with more than five years, which is

Table 4.1

COMPARATIVE GROUP PROFILE (FIRST SURVEY)

	GROUPS							
	1	2	3	4	5	6	7	All Respondents
SECTION A								
Distribution amongst first survey respondents	14.72	29.95	27.41	12.69	6.6	5.08	3.55	100.0
Distribution amongst first survey respondents with 5 or fewer years in CAEs	15.3	35.3	29.4	8.2	4.7	3.5	3.5	100.0
Order of growth (- denotes a decline)	3	1	2	-7	-5	-6	4	
SECTION B								
Percent of group appointed in last five years	44.8	53.6	48.1	29.2	30.8	42.9	42.9	45.2
SECTION C								
Academic Seniority Percent At								
1. H of S rank	7.4	5.7	3.9	0	7.7	.0	.0	4.4
2. Pr. Lecturer	11.1	13.2	7.8	8.3	15.4	.0	.0	10.0
Combined 1 & 2	18.5	18.9	11.7	8.3	23.1	.0	.0	14.4
3. Sen. Lecturer	22.2	22.6	19.6	33.3	7.7	.0	.0	20.6
Combined 1, 2 & 3	40.7	41.5	31.3	41.6	30.8	.0	.0	35.0
Lecturer	55.6	52.8	58.8	58.3	69.2	100.0	66.7	58.9
Other	3.7	5.7	9.8	.0	.0	.0	33.3	6.1
				100				100.0
SECTION D								
Age Percent 40 or less	60.7	65.6	49.1	33.3	69.3	50.0	100.0	56.8
SECTION E								
Industrial experience Percent with more than 5 years	58.62	45.76	65.38	44.0	38.46	30.00	14.28	52.28

Table 4.1 (cont.)

COMPARATIVE GROUP PROFILE (CONT.)

	1	2	3	4	5	6	7	All Respondents
SECTION F								
Academic Qualifications Percent with								
1. Ph.D.	32.1	20.3	14.8	8.0	.0	.0	.0	15.8
2. Master	25.0	22.0	20.4	28.0	30.8	20.0	28.6	23.5
Higher 1 & 2	57.1	42.3	35.2	36.0	30.8	20.0	28.6	39.3
3. Hons First Degree	10.7	10.2	11.1	.0	15.4	.0	28.6	9.7
4. Postgrad. Qual. (other than higher)	7.1	13.6	18.5	12.0	7.7	.0	14.1	12.8
5. Graduates (First degree)	17.9	27.1	25.9	20.0	30.8	70.0	14.3	26.5
All Graduates	92.8	93.2	90.7	68.0	84.7	90.	85.6	88.3
Non Graduates	7.2	6.8	9.3	32.0	15.3	10.0	14.4	11.7
				100.0				100.0
SECTION G								
Discipline* Percent in								
Engineering	26.9	25.0	22.0	54.5	30.8	20.0	.0	27.1
Arch. & Building	3.8	5.4	12.0	9.1	.0	20.0	.0	7.6
Acct. & Bus. Management	18.3	30.0	20.0	13.6	38.5	30.0	28.6	22.2
Economics	7.7	7.1	4.0	.0	.0	10.0	28.6	6.0
Geog/Politics & Sociology	.0	1.8	2.0	.0	7.7	20.0	14.3	3.3
Law & Public Admin.	11.5	7.1	2.0	4.5	7.7	.0	.0	5.4
Chemistry	30.8	28.6	36.0	18.2	15.4	.0	28.6	27.2
Unspecified	3.8	.0	2.0	.0	.0	.0	.0	1.1
								99.9
SECTION H								
State Percent in								
Queensland	10.3	7.1	.0	9.5	7.7	10.0	.0	5.9
N.S.W.	6.9	3.6	8.0	4.8	15.4	20.0	16.7	7.6
Victoria	37.9	53.6	54.0	47.6	53.8	60.0	33.3	50.3
A.C.T.	.0	5.4	2.0	.0	.0	.0	16.7	2.7
Tasmania	3.4	10.7	8.0	.0	15.4	.0	.0	7.0
South Australia	13.8	10.7	10.0	28.6	7.7	10.0	33.3	16.2
Western Australia	27.6	8.9	8.0	9.5	.0	.0	.0	10.3

* The questionnaire was only mailed to civil and mechanical engineering, arch. and building, bus. studies, and chemistry departments of multipurpose CAEs.

above the respondents' average percentage of 52.28, while, in addition, this background of industrial experience is shared by the Ph.D.s, 66.7 percent of the Ph.D.s in the group having industrial experience of more than 5 years - which is significantly higher (at the .02 level) than the industrial experience of Ph.D.s in the other groups. Nevertheless, in spite of these advantages, and perhaps, surprisingly in fact, the present rank that Group 1 has over Group 2 is very small, and, presumably, in the future could be less, 40.3 percent of Group 1 is already over 40, compared with only 34.4 percent of Group 2. It is also noticeable that the rate of growth of Group 1 over the last five years has only just been ahead of the sample as a whole (Section B).

The potential of Group 2 to hold positions of authority and influence in the future becomes even more obvious from the following analysis where Group 2 is compared by age with the 'Rest', holding constant by academic rank; lecturers and senior lecturers, taken as separate groups or combined, are significantly younger than the equivalent ranks in the remainder of the staff (Table 4.2).

Second Survey

As the response to the first survey was only 26.51 percent, the investigators were concerned lest they were reporting on a biassed response. Accordingly, a second survey was conducted, consisting of one page, and despatched to the same sample as before. This survey drew response from an additional 27.41 percent of the sample, so, in all, 54.05 percent of the sample responded.

Naturally, a one page questionnaire could not hope to give the refined analysis of the first survey. Nevertheless, it did provide the evidence needed to show that the attitudes of recent appointments to the multipurpose colleges disclosed in the first survey, that is, their distinctly different attitude from earlier appointments, particularly, at senior levels, was typical of at least 54 percent of the sample, and, in all likelihood, of the population as a whole. The evidence for this conclusion is provided below.

The self-identified non-respondents to the first survey were asked to give their opinions to seven statements concerning the differential roles of the multipurpose CAEs and the universities. The statements and the distribution of responses amongst the returns are shown in Table 4.3. The responses were then controlled for years in the CAEs, the

Table 4.2

AGE AND RANK OF CAE ACADEMIC STAFF

Age	Group 2 %	The Rest %	Significance
	Lecturers		
40, or less	82.1	66.64	.10 (nearly .05)
More than 40	17.9	36.36	
	Senior Lecturers		
40, or less	75.0	33.3	
More than 40	25.0	66.7	.02
	Lecturers and Senior Lecturers		
40, or less	80.0	56.44	
More than 40	20.0	43.56	.01

analysis being simplified to those who had five or fewer years of service and those who had more. The breakdown revealed that in all statements except the first, where there was no difference, the more recent appointments take a less dichotomous attitude in respect of the two types of institutions. However, in spite of this general pattern, only some items showed a statistically significant difference. On chi-square testing, Item Two had a .02 level of significance, and Items Three and Seven, a .20. Accordingly, the analysis for these three items was then taken one step further and controlled for academic rank (Table 4.4).

The most important finding is possibly the attitude of newly appointed senior staff. On all three items, senior staff (heads of school, principal lecturers, and senior lecturers) were either more against or less willing to be committed to a dichotomous viewpoint of the institutional roles than were senior staff of earlier appointment. When the senior staff ranks are combined, the statistical difference between the response patterns of the two periods is highly significant, though the statistical significance tends to be high even when the groups are treated individually.

The same conclusions do not apply to lecturers, however. In fact, in Statements Two and Seven, newly appointed lecturers showed a tendency to take a more 'Wark-style' approach than did lecturers with earlier appointment.

Two interesting interpretations might be made from the above analysis. The first would assume that the newly appointed lecturers are much younger than the newly appointed senior staff, and that over time their attitudes would come to dominate as the latter retire. However, the analysis of the first sub-set of respondents showed that this assumption is not necessarily correct: of the two groups that dominated appointments in the last five years (namely, Groups Two and Three) Group Two was not only the more senior, but the younger, and also the more academically qualified, and of the two groups, it was far less committed to a dichotomous viewpoint. This, therefore, leads one to the second interpretation, which has already been suggested by the major survey and is consistent with the evidence of the second: in recent years preference in appointment of senior staff has been given to persons who would be less committed to the Wark-style dichotomy.

Table 4.3

ATTITUDE OF STAFF TO BINARY SYSTEM BY YEARS IN CAE

(Second Survey)

Statement	Period* in CAEs	Opinion** 1 %	2 %	3 %	Statistical Significance (B : C) X^2
ONE: CAE courses should have a more applied emphasis than universities	A	81.1	5.3	13.7	
	B	80.0	5.33	14.67	NS
	C	81.82	5.45	12.73	
TWO: CAE staff should expect to pay far less attention to research than university staff	A	37.4	36.3	26.3	
	B	32.88	49.32	17.81	.02
	C	41.28	28.44	30.28	
THREE: CAEs should be less concerned with entry standards of students than universities	A	24.1	59.2	16.8	
	B	18.42	50.21	22.37	.20
	C	28.18	58.18	13.64	
FOUR: CAEs should pay far less attention to post-graduate training than universities	A	27.9	54.2	17.9	
	B	23.68	56.58	19.74	NS
	C	30.28	53.21	16.51	
FIVE: CAEs should offer more opportunity for part-time study than universities	A	80.5	9.5	10.0	
	B	not analysed			
	C				
SIX: CAEs should have a more direct and intimate relationship with industry than universities	A	68.1	10.5	21.5	
	B	63.16	14.47	22.37	NS
	C	70.91	8.18	20.91	
SEVEN: CAEs should have a primary emphasis on teaching	A	66.5	11.2	22.3	
	B	61.84	14.47	23.68	.20
	C	71.15	5.77	23.08	

*Period in CAEs:

A All Respondents
B Respondents with five or fewer years in CAEs
C Respondents with more than five years in CAEs

**Opinion:

1 Yes
2 No
3 Too complex for yes/no

Table 4.4

ATTITUDE OF STAFF BY YEARS IN CAE AND BY ACADEMIC RANK

(Second Survey)

Statement*	Academic Rank	Period** in CAEs	Opinion*** 1 %	2 %	3 %	Statistical Significance X^2
TWO	(i) Heads of School & Prin. Lecturer	A	0	67	33	.10
		B	50	30	20	
	(ii) Senior Lecturer	A	11.11	44.44	44.44	.20
	(i) & (ii) combined	B	48.28	20.69	31.03	.02
	(iii) Lecturer	A	36.84	47.37	15.79	.10
		B	33.93	32.14	33.93	
THREE	(i) Heads of School & Prin. Lecturer	A	16.67	66.67	16.67	
		B	30.0	50.0	20.0	NS
	(ii) Senior Lecturer	A	21.05	61.40	17.54	.01
		B	28.57	58.93	12.50	
	(i) & (ii) combined					.05
SEVEN	(i) Heads of School & Prin. Lecturer	A	33.33	16.67	50.0	.20
		B	78.95	5.26	15.79	
	(ii) Senior Lecturer	A	22.22	11.11	67.67	.02
		B	75.00	7.15	17.85	
	(i) & (ii) combined					.001
	(iii) Lecturer	A	70.18	14.04	15.79	NS
		B	58.93	12.50	28.57	

*STATEMENT TWO: CAE staff should expect to pay far less attention to research than university staff.

STATEMENT THREE: CAEs should be less concerned with entry standards of students than universities.

STATEMENT SEVEN: CAEs should have a primary emphasis on teaching.

**Period in CAEs: A. Staff have been in CAEs for five or fewer years
B. Staff have been in CAEs for more than five years

***Opinion: 1 Yes
2 No
3 Too complex for yes/no

CHAPTER FIVE

CONCLUSION

This study was designed to investigate the attitudes and the ideologies of staff and institutions concerning the role of the multi-purpose CAE in tertiary education. The authors believe, particularly after an examination of the Anderson et al (1975) study, that many of the findings can be generalised; nevertheless the reader should remember that the evidence on the staff perspective is derived from only a part (though a large one) of the CAE sector, namely the faculties of civil and mechanical engineering, architecture and building, business studies, and chemistry within the metropolitan multipurpose CAEs.

Naturally, it was not unexpected to find a number of different ideologies being held, but perhaps the more important fact is that neither the institutions nor the staff universally accepted any one of these ideologies to give the multipurpose CAEs a common identity. The authors feel from their analysis of the study and from their conversations with administrators and staff within the CAE sector that this can be substantially attributed to the following

- the lack of a clear conceptualization of the distinctive purposes of multipurpose CAEs vis-a-vis universities. In other words, the 'identity crisis' widely remarked on here and overseas (see Batt, 1975, p.38).

- differences among the personal aspirations of CAE academic staff and administrators at all levels.

- the lack of interest in such issues as the binary system by some CAE staff, who could well be more interested in the immediate day-to-day issues of teaching a course, in consulting, and in gaining further qualifications.

The issues recognized as important by the study were complex, and it is necessary to look at the institutional and staff perspectives separately.

Table 4.4

ATTITUDE OF STAFF BY YEARS IN CAE AND BY ACADEMIC RANK

(Second Survey)

Statement*	Academic Rank	Period** in CAEs	Opinion*** 1 %	2 %	3 %	Statistical Significance X^2
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		B	50	30	20	
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		B	30.0	50.0	20.0	
	(ii) Senior Lecturer	A	21.05	61.40	17.54	.01
		B	28.57	58.93	12.50	
	(i) & (ii) combined					.05
SEVEN	(i) Heads of School & Prin. Lecturer	A	33.33	16.67	50.0	.20
		B	78.95	5.26	15.79	
	(ii) Senior Lecturer	A	22.22	11.11	67.67	.02
		B	75.00	7.15	17.85	
	(i) & (ii) combined					.001
	(iii) Lecturer	A	70.18	14.04	15.79	NS
		B	58.93	12.50	28.57	

*STATEMENT TWO: CAE staff should expect to pay far less attention to research than university staff.

STATEMENT THREE: CAEs should be less concerned with entry standards of students than universities.

STATEMENT SEVEN: CAEs should have a primary emphasis on teaching.

**Period in CAEs:
A. Staff have been in CAEs for five or fewer years
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	(iii) Lecturer	A	36.84	47.37	15.79	.10
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		B	30.0	50.0	20.0	
	(ii) Senior Lecturer	A	21.05	61.40	17.54	.01
		B	28.57	58.93	12.50	
	(i) & (ii) combined					.05
SEVEN	(i) Heads of School & Prin. Lecturer	A	33.33	16.67	50.0	.20
		B	78.95	5.26	15.79	
	(ii) Senior Lecturer	A	22.22	11.11	67.67	.02
		B	75.00	7.15	17.85	
	(i) & (ii) combined					.001
	(iii) Lecturer	A	70.18	14.04	15.79	NS
		B	58.93	12.50	28.57	

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- the lack of interest in such issues as the binary system by some CAE staff, who could well be more interested in the immediate day-to-day issues of teaching a course, in consulting, and in gaining further qualifications.

The issues recognized as important by the study were complex, and it is necessary to look at the institutional and staff perspectives separately.

Firstly, in respect of the institutional perspective, the averaging of the responses of the institutions does result in a generalized picture of the desired role of multipurpose CAEs similar in many characteristics to the Wark I Report model.

This communality of responses can be viewed in the framework of the slogan "different from but equal to". It is considered that multipurpose CAEs should have greater vocational and industrial relevance than universities, but that multipurpose CAE undergraduate courses should be equal in standards to corresponding university undergraduate courses. One should remember, however, that opinions varied as to the relative importance that should be given to undergraduate compared with other level courses.

Secondly, although there were a number of suggestions of a drift of CAEs towards universities, some respondents argued that universities were drifting towards CAEs. Obviously, a re-examination of the respective roles of universities and CAEs is necessary.

Thirdly, with respect to the desired role of the multipurpose CAEs vis-a-vis the universities, there seems to be at least two clusters of institutions. With some exception, the larger multipurpose CAEs seem to view their role as being very similar to that of universities, especially with respect to levels of courses offered. The smaller multipurpose CAEs seemed to sharply distinguish between themselves and universities, while there was a slight tendency for the institutions of medium size to be ambivalent. It is unfortunate that the limited response from the larger CAEs did not allow this contrast to be more fully investigated.

Fourthly, based on the differences between desired and actual state of affairs expressed by institutions, it is hypothesized that there will be strong pressure to increase the amount of research and industrial consulting being undertaken by staff in at least the larger multipurpose CAEs, and that there will be pressures to attempt to increase the provision of post-graduate courses, and to attempt to obtain more funding per EFTS. This hypothesis recurs again in respect of the discussion of the staff perspective. In general, however, the institutions see a greater divergence in roles between universities and multipurpose CAEs than do staff.

Fifthly, there was an almost unanimous agreement by State bodies and institutions that staff should have the same study leave duration of one year every seven years as is currently available to university staff.

Sixthly, in respect of Professor William's model of the formulation of institutional policy in higher education (see Williams, 1970) there seems to be a lack of acceptance that the 'inner logic' of the multi-purpose CAEs should be determined from outside the CAEs.

Finally, very few respondents from State bodies and CAEs wished to see the binary system continue in its present form. Three respondents were opposed to the continuation of the binary system; the remainder wished to see a clearer distinction between university and non-university institutions.

The analysis of the principal staff survey identified seven groups of staff with different sets of criteria on which to base the role of CAEs. Though the response rate to the survey makes it difficult to determine the true weighting and importance that should be given to the smaller groups, the compatibility of the pattern of response in the second survey with the main sets of criteria identified as having strong statistical significance in the principal survey itself enables the following comments to be made.

Foremostly, the central difference of opinion among the staff is the relative support that should be given to the Wark-style dichotomy of the binary system; that is, the notion of CAEs maintaining equality of esteem with the universities while providing more vocationally, industrially, and community-oriented course programmes, having entry requirements less academically rigid than have universities, and providing conditions more suitable for the part-time student. Two small groups of the staff take very strong stances against this dichotomy; one dislikes it from a radical perspective, believes that the notion of equal but different is self-contradictory, and feels that the system aims to give CAE staff and students a second best option; the other group is strongly opposed to the dichotomy for fear that the dichotomy will reduce the scholastic creditability of the CAEs. Both these groups seem to be small and not very senior in academic rank, but their extreme views against the dichotomy may make up to a certain extent for their lack of size. They might also gain support when the periodic issue of maintaining parity with university salaries arises.

It is also fairly clear that those groups that give strongest support to the Wark dichotomy are declining in relative number and relative seniority.

On the other hand the group which shows itself to be the most potentially powerful, a group which is relatively senior, recently appointed, and still relatively young (the second group of the principal survey) holds a less dedicated commitment to the Wark-style concept than that held by those appointed earlier. Furthermore, the survey shows that generally this group sees the difference between the CAEs and the universities in respect of the Wark recommendations as having gone far enough; sometimes in fact having already gone too far. The identification of this group is replicated in the second staff survey which shows that newly appointed senior staff are less dedicated to the Wark dichotomy than are others. The implication of these facts upon the official direction of expansion of the multipurpose CAEs hardly needs elucidation. In the absence of a dedicated stance towards the Wark model amongst staff with seniority or likelihood of seniority in the next ten years, the probability of the CAEs working out new styles of higher education without substantial duplication of the university model is very slim indeed.

It should also be borne in mind that when predicting the pattern of future development, the important standard for deciding on action by the staff is not just the concept of what the difference between CAEs and universities should be but very importantly what the difference is already thought to be. The best example of this point is nowhere clearer than in respect of the relative weighting that staff feel should be given between teaching and research. All but a small minority of staff acknowledge that the balance should be more weighted towards teaching than it should be in universities, but all groups feel that the balance away from research has moved too far - hence the feeling of the authors that the CAEs will exert strong pressure over a wide front to obtain more time and resources for research and for those activities such as postgraduate education that are associated with it.

Apart from making the comments above, comments which the authors of this report feel show fairly well some fundamental problems about the viability of the binary system, the authors believe that any intimation concerning which direction higher education should next move requires a

discussion far wider than could be set within the confines of the relative roles of CAEs and the universities. The solutions of the future will require a perspective cast across the whole relationship of the education system with the labour market. This report provides a small, and, hopefully, a useful part of the data required for formulating such a perspective.

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APPENDIX

DATA BANK FOR CHAPTER FOUR

SIZE OF RESPONDENT GROUPS

AEBs (Advanced Education Boards) - 2
INSTITUTIONS - 6
STAFF - 197

Assertions and suggestions concerning differences in emphasis of the roles, functions, enrolments and staffing between the multipurpose CAE and the university have been given by various persons and committees. Please indicate by circling the appropriate code number what you consider the difference in emphasis

(a) should be, and
(b) is

between the multipurpose CAE and the university.
Whenever you feel no difference is the most appropriate answer please circle code (4) in the applicable column.

EMPHASIS	(a) Consider SHOULD be different					(b) Consider ARE different				
A. Compared with the universities, the multipurpose CAEs:	Should be MORE 1 2 3	Should be SIMILAR 4		Should be LESS 5 6 7		Are MORE 1 2 3	Are SIMILAR 4		Are LESS 5 6 7	
	AEB	Institutions		Staff		AEB	Institutions		Staff	
	Mean	Mean	SD	Mean	SD	Mean	Mean	SD	Mean	SD
(1) vocationally-oriented	1.5	1.67	0.75	2.25	1.27	1.5	2.67	0.75	2.53	1.19
(2) teaching-oriented	1.5	1.50	0.76	2.71	1.38	1.5	2.33	0.75	2.62	1.36
(3) research-oriented	5.5	5.17	1.34	5.10	1.37	7	6.33	0.75	6.03	1.48
(4) industry-oriented	2	2.17	0.69	2.19	1.16	2.5	2.00	0.58	2.92	1.27
(5) community-oriented	2	1.50	0.50	2.77	1.27	2.5	2.67	1.11	3.62	1.31
(6) likely to admit students on the basis of a technician/ sub-professional course, as an alternative to matriculation	2.5	1.17	0.37	2.56	1.37	2.5	2.17	0.6°	2.83	1.43
(7) costly for society	5	4.00	0.00	4.20	0.89	5.5	5.50	1.26	5.20	1.49
(8) controlled by State authorities	3.5	5.00	1.41	4.55	1.37	2	2.67	1.49	3.24	1.52
(9) manpower-oriented	3	3.67	1.70	3.50	1.19	3	2.83	1.34	3.57	1.29
(10) innovative	2.5	2.33	1.25	3.03	1.28	3	3.67	1.11	3.91	1.52
(11) efficient in use of resources	4	3.33	0.94	3.28	1.20	4	3.00	0.82	3.64	1.45

EMPHASIS	AEB	Institutions		Staff		AEB	Institutions		Staff	
	Mean	Mean	SD	Mean	SD	Mean	Mean	SD	Mean	SD
	(a) Consider SHOULD be different					(b) Consider ARE different				
	Should be MORE		Should be SIMILAR		Should be LESS	Are MORE		Are SIMILAR		Are LESS
(12) authoritarian	3.5	3.67	0.75	4.58	1.31	3	3.00	1.00	3.63	1.44
(13) guided by industry	3	3.17	1.34	2.82	1.29	3	3.00	1.29	2.99	1.27
EMPHASIS	(a) Consider SHOULD be different					(b) Consider ARE different				
B. Compared with the universities, the multipurpose CAEs:	Should have MORE		Should have SIMILAR		Should have LESS	Have MORE		Have SIMILAR		Have LESS
(14) part-time courses	1	1.67	1.11	2.17	1.21	1.5	1.50	0.76	2.32	1.34
(15) higher-technician courses	2	1.83	0.90	2.63	1.59	2	1.17	0.37	2.55	1.55
(16) sandwich courses	1.5	2.17	1.21	2.47	1.44	2.5	2.83	1.07	3.14	1.46
(17) postgraduate courses	4.5	4.17	1.95	4.17	1.73	5.5	5.00	1.91	5.84	1.53
(18) applied research than pure research	1.5	2.50	1.12	2.23	1.25	1.5	4.33	1.60	3.94	1.87
(19) rigid entry requirements	6.5	6.16	1.21	5.12	1.37	6	4.67	0.47	4.86	1.26
(20) specific subject areas (journalism, physiotherapy etc.)	2	2.17	1.07	2.57	1.37	1.5	3.00	0.82	2.96	1.39
(21) students from lower socio-economic groups	4	3.00	1.15	3.46	1.13	2.5	3.00	0.82	3.13	1.47
(22) ties with industry	2.5	1.83	0.69	2.26	1.13	3	3.17	1.34	3.02	1.26
(23) students at one institution	4.5	4.75	0.83	4.27	1.36	5.5	5.50	0.50	4.81	1.56
(24) students per staff member	3.5	4.00	0.58	3.39	1.27	4.5	3.67	1.11	4.33	1.77
(25) lower academically-qualified students	2	2.67	1.25	3.59	1.16	2	3.67	0.75	3.14	1.74
(26) external courses	2.5	2.33	1.25	3.18	1.49	4	3.33	0.75	3.93	1.66
(27) undergraduate courses	3	2.17	1.34	2.98	1.20	3.5	2.67	1.25	3.45	1.48

	AEB	Institutions		Staff		AEB	Institutions		Staff	
	Mean	Mean	SD	Mean	SD	Mean	Mean	SD	Mean	SD
EMPHASIS	(a) Consider SHOULD be different					(b) Consider ARE different				
C. Compared with university courses multipurpose CAE courses:	Should be MORE		Should be SIMILAR		Should be LESS	Are MORE		Are SIMILAR		Are LESS
(28) student-oriented in teaching methods	2	1.67	1.11	2.63	1.34	2.5	3.17	1.07	2.95	1.34
(29) likely to produce graduates immediately effective on graduation	2.5	1.50	0.76	2.47	1.23	2	3.00	1.00	2.75	1.23
(30) oriented to application of knowledge	2	1.50	0.50	2.22	1.14	1.5	2.67	0.75	2.66	1.26
(31) theoretical	6	5.50	1.26	5.03	1.15	6	5.33	0.75	5.35	1.14
(32) oriented to developing professional attitudes	2.5	3.00	0.82	3.31	1.17	3.5	3.83	0.90	3.94	1.26
(33) planned with respect to manpower forecasts	3	3.67	1.80	3.24	1.12	3	3.33	0.94	3.76	1.15
(34) narrowly-based with respect to prospective job functions	3.5	4.17	1.46	3.94	1.39	2.5	4.00	1.00	3.30	1.32
(35) emphasis on applications in later years	4	3.00	1.41	3.06	1.27	4.5	3.00	0.58	3.59	1.47
(36) oriented to widening horizons	5	3.50	0.76	3.62	1.14	5.5	4.17	0.69	4.61	1.26
EMPHASIS	(a) Consider SHOULD be different					(b) Consider ARE different				
D. Compared with university staff, multipurpose CAE staff:	Should have MORE		Should have SIMILAR		Should have LESS	Have MORE		Have SIMILAR		Have LESS
(37) industrial experience	1.5	1.50	0.76	2.31	1.14	1.5	2.50	0.50	2.60	1.16
(38) training in teaching methods	3.5	2.17	1.34	3.06	1.12	3	3.00	0.58	3.17	1.22
(39) published research papers	5.5	5.50	0.96	4.92	1.27	6.5	6.00	1.15	5.97	1.19

EMPHASIS	AEB	Institutions		Staff		AEB	Institutions		Staff	
	Mean	Mean	SD	Mean	SD	Mean	Mean	SD	Mean	SD
	(a) Consider SHOULD be different					(b) Consider ARE different				
	Should have MORE		Should have SIMILAR		Should have LESS	Have MORE		Have SIMILAR		Have LESS
(40) current industrial consulting interests	3	1.83	0.37	2.88	1.24	4	4.17	1.21	3.85	1.46
(41) pay	4.5	4.16	0.37	3.96	0.64	4.5	4.00	0.00	4.35	0.71
(42) contact with industry	3	1.33	0.47	2.41	1.09	3.5	3.33	1.37	3.18	1.26
EMPHASIS	(a) Consider SHOULD be different					(b) Consider ARE different				
E. Compared with full-time university students, full-time multipurpose CAE students:	Should be MORE		Should be SIMILAR		Should be LESS	Are MORE		Are SIMILAR		Are LESS
(43) able to gain industrial experience	2.5	1.33	0.47	2.74	1.14	3	2.67	0.47	3.31	1.03
(44) analytical and theoretical	5	4.00	0.82	4.44	1.00	5.5	4.33	0.47	5.01	1.09
(45) able to gain experience directly relevant to an employer	3	2.17	0.37	2.99	1.11	2.5	3.33	0.47	3.24	1.02
(46) radical politically	4	4.50	1.12	4.32	1.14	5	5.33	0.75	5.36	1.32
F. Compared with part-time university students, part-time multipurpose CAE students:										
(47) able to gain industrial experience	2.5	1.67	1.11	2.90	1.23	3	2.50	1.26	3.16	1.28
(48) analytical and theoretical	5	3.83	1.07	4.41	1.03	5.5	4.33	0.47	4.86	1.21
(49) able to gain experience directly relevant to an employer	3.5	2.17	0.90	3.00	1.21	3.5	3.00	1.00	3.00	1.21
(50) radical politically	4	4.50	1.12	4.41	1.19	5.5	5.00	1.15	5.08	1.30
(51) ambitious	4	3.17	1.07	3.65	0.91	4	3.33	1.11	3.91	1.20

EMPHASIS	AEB	Institutions		Staff		AEB	Institutions		Staff	
	Mean	Mean	SD	Mean	SD	Mean	Mean	SD	Mean	SD
	(a) Consider SHOULD be different					(b) Consider ARE different				
G. Compared with multipurpose CAEs, the universities:	Should be MORE		Should be SIMILAR		Should be LESS	Are MORE		Are SIMILAR		Are LESS
(52) oriented to intellectual scholarship	1.5	2.17	0.90	2.99	1.43	1.5	1.83	0.37	3.00	1.86
(53) oriented to integration of existing knowledge	2.5	3.83	1.95	3.65	1.20	2.5	4.00	1.41	3.91	1.42
(54) autonomous	2.5	3.50	1.12	3.83	0.80	2.5	3.33	1.11	3.52	1.56
(55) inclined to stress the liberal tradition of education	2	2.83	1.34	3.59	1.08	2	2.67	0.75	3.49	1.61
(56) oriented to individual needs of students	4	4.00	0.00	3.64	1.17	5	4.17	0.90	4.36	1.40
(57) oriented to academic standards	1.5	3.33	1.11	3.52	1.06	1.5	3.17	0.69	3.42	1.46
(58) likely to prevent unsuitable people from becoming professionals	4	4.00	0.00	3.91	0.82	4	4.17	0.37	3.88	1.23
(59) oriented to general occupational preparation rather than specific occupational preparation	2.5	3.50	1.71	3.54	1.19	2.5	3.33	1.49	3.49	1.46
(60) radical socially	4	3.67	0.47	3.97	0.97	3	3.17	0.69	3.51	1.64
(61) comprehensive in course offerings	4.5	4.17	1.57	3.68	1.19	5	3.67	1.11	3.83	1.40
(62) likely to have a high student discontinuance rate	3.5	3.67	0.75	4.01	0.99	4.5	3.83	0.69	3.68	1.44
(63) inclined to educate graduates to be adaptable to changing roles in the work situation	3.5	3.33	0.75	3.53	1.07	2.5	3.67	1.49	4.00	1.33